The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. LIX, No. 6 — CHICAGO, ILLINOIS — AUGUST 10, 1912

THE PROBLEM OF THE PUBLIC HEALTH *

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When the historian of the future records the accomplishments of the decade in which we are now living, he will no doubt call it "the sanitary renaissance," the period marked by a wide-spread desire to improve the conditions under which men and women work and live, an era in which our truly altruistic profession has instituted and led a movement for the physical salvation of mankind. We must not be blind to the fact, however, that we have sometimes confused change for the sake of change with real progress and that our impatience has sometimes obscured the main object of our quest. This does not apply solely to medicine, for whether it be in religion, politics, or public health, it sometimes seems as though all the enthusiasm is on the side of the champions of change. But not all change is progress and not all progress is change. The economic principles which govern us to-day were not born of sudden inspiration but are the product of countless centuries of slow and painful evolution. Every organized institution or effort which has profoundly influenced the race for good has been brought about by slow processes and has not been produced as a *de novo* creation. Real progress has followed the plan of building from a basic nucleus, of carefully erecting the superstructure on a foundation which has stood the stress and strain of time and service.

No better example of this principle can be found than ir the way in which the public health institutions of our country have been built up from the simple colonial quarantine to the chain of working sanitary bodies of the nation, the state, the county and the municipality. No better or more hopeful prophecy for their continued usefulness and future improvement can be found than in the contemplation of the gradations which have been followed in this evolutionary process.

The colonial period brought forth an attempt on the part of the various ports and cities to exclude and eradicate pestilential disease. This was a local, unorganized, and non-uniform movement, too often influenced by commercial motives and civic pride, but the seed of preventive medicine thus sown took root, and one of the first bills introduced into the First Congress of the United States provided for the assumption of the quarantine power by the federal government. But the time was not ripe, and we passed through a long period of state and local quarantine, and not a few devastating epidemics, before the citizenship had evolved to the point where it would impose these duties on the general government. Even then we were unprepared for the step, and the short-lived national Board of Health came and went, but not before it had touched with prophetic finger the heart of the problem of the public health, the state and local boards of health. In a republic where the right to govern rests on the consent of the governed, where public sentiment very largely influences the enforcement of sanitary law, where people think before they obey, the cornerstone of the whole public health fabric is the state board of health, and its efficiency determines in large measure the efficiency of the whole.

Coincident with the development of the state boards came the improvement of the federal health agencies. The national Board of Health was a *de novo* creation springing fully formed from the brains of a number of the most brilliant and public-spirited medical men of their time. The principle on which it was founded, however, was not accepted at the time and it fell to the ground of its own weight. In the meantime a small body of men were plodding steadily along the public health path; studying exotic disease in the hospital; wrestling with the wraiths of pestilence in fever camps; learning in the solitude of isolated quarantines the management of our coast defenses against disease. Congress gradually recognized the work of this body and by the enactment of laws enlarged its functions and powers. From this source came the Public Health and Marine-Hospital Service.

A great deal has been said recently about a national department of health. The logic of this seems to me to be so apparent as to need no defensive argument. But much as a strong federal bureau of health is required and earnestly as we must strive for its accomplishment, the great problem lies in the improvement of the state and local health agencies, in the extension of their powers and the increase of their appropriations. The key to the solution of the problem lies in education, the simultaneous education of both the leaders and the led. The great universities are now providing for the training of competent health officers, and various public-spirited medical bodies are acting in cooperation with the sanitary authorities as teachers of the adult public. This agitation is largely the result of the continued efforts of the American Medical Association for the past sixty-five years, and its wisdom is apparent, because no law can be effectively enforced which is not in accord with public sentiment. This has been conclusively demonstrated in recent years in the various campaigns for the suppression of epidemic disease in this country. Plague was not eradicated from San Francisco, in 1907, until the public had been educated by lectures and newspaper articles and their cooperation

* Chairman's Address and Oration on State Medicine before the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912

thus obtained. Similarily the yellow fever suppressive measures during the New Orleans epidemic of 1905 would have failed of the highest accomplishment, in the broadest sense, had not the public conscience been quickened by the thorough inculcation of the mosquito dogma.

But we are not waiting for epidemic outbreaks of disease to make necessary such eleventh-hour sanitary conversion. The common schools now teach elementary hygiene; the colleges supplement this earlier instruction with more advanced obligatory courses, and the fruition of these labors will carry us a long way toward the sanitary ideal. The reaping of this harvest is an affair of the future; the immediate and crying need is the enlargement of the scope of the state boards of health. Many of these are already doing work of a high standard of excellence, but in some states they are merely skeleton organizations with little power and small appropriations for the task which confronts them. Too frequently their laboratory facilities are inadequate, and research work is entirely out of the question. Next to a highly trained personnel, the most important thing in a state health organization is an efficient diagnostic laboratory to which medical practitioners may send specimens for examination. This service should be extended free of charge, and physicians, particularly in the rural districts, where laboratory facilities are usually very meager, should be encouraged in every way to avail themselves of this means of accurate diagnosis. This reacts to the improvement of the public health not only in the benefit received by the individual patient but also because an increasing accuracy of the morbidity and mortality statistics is made possible thereby. This means an increase of the registration area, a line of extension in which it is hoped the federal bureau of health may be able to assist.

We should not, however, be content to have these laboratories employed solely in the performance of routine work. There is a great and varied field for research open to us and as no two states have exactly the same problems confronting them, an extension along the line of original investigation promises results of world-wide benefit.

Laboratories and an extension of duties on the part of state boards of health cost money. The guardianship of the public health is an obligation of such great importance that the personnel of the sanitary department should be the most highly competent men available and they should be paid accordingly. There has been in the past a policy of parsimony in this regard—in fact, in all health appropriation matters — which has seriously impeded sanitary progress. This is most short-sighted. Every dollar spent on health boards should be regarded as an investment and not an expense, and be it said to the credit of these boards that they are run with a smaller wastage of funds than any other institution of the government.

Those experienced in public health work know how extremely difficult it is to secure adequate appropriations and suitable laws for even the simplest sanitary problems with which we have to deal. This is partly because of the reputation of our profession for making bricks without straw and partly the fault of the method of presenting the case to the people's representatives. In the final analysis, it is a simple business proposition, a form of health insurance. To be sure, it is pretty hard to buy good health back, once it has been allowed to get away, but once possessed, it is merely an economic problem to maintain it. This is the duty of the health bodies which are in close touch with the people. The plan of organization of our sanitary agencies, modeled as it is on the scheme of the nation, recognizes this fact. When our forefathers founded the republic, the rights of the states from the interference of federal control was guaranteed, and it is now recognized that "the power of the federal government begins where the power of the state government ends."

Federal interference with the right of a state to administer its own health measures would scarcely be tolerated unless it could be shown that some extraordinary condition prevailed, and even then, such service could be rendered only at the request of the state in question. This clothes the central sanitary organization with advisory powers except in such matters as concern all the states, or the relations of one state to another state or to the outside world. It also imposes certain executive functions, such as the collection of vital statistics, the administration of the quarantines between the states or between our country and foreign countries, and the control of such products as would affect the health of a large mass of the people, for example, the toxins, antitoxins and viruses.

It will be seen from this that there are great limitations to the activities of the health department of the general government. It was intended from the beginning that the federal departments should take over only such functions as could not be relegated to the states. The Department of State, the Department of War, the Department of the Treasury, the Postoffice Department, the Department of the Interior—all of these are peculiarly governmental departments, and it is with the affairs of the central government that they are concerned. But the health of this nation is in the main the health of the various states, and to their care must be entrusted much of the machinery of its promotion. This is the most vital aspect of the public health problem.

There has always been a great deal of confusion in the minds of persons who have not studied the matter deeply as to the sanitary powers of the federal government; many persons are prone to think that a department of health, with a secretary in the President's cabinet, would accomplish a great deal in solving public health problems. Our legislators have therefore wisely determined that the public health interests, in so far as the government can control them, shall be entrusted to a bureau whose personnel is composed of trained sanitarians. The bureau of health at Washington is capable of great expansion, and when so enlarged, it can do a great deal more than it is now doing for the betterment of sanitary conditions in the states.

The present Secretary of the Treasury has evinced an interest and sympathy for the advancement of health interests not heretofore shown by any of his predecessors in office. This is a splendid beginning, and we may expect a greater liberality in appropriations and the granting of additional powers from time to time by Congress.

Few persons, even in our own profession, are aware of the organization which already exists, and the triumphs which it has achieved in the field of preventive medicine. There is no nation in the world which has a more efficient sanitary corps, and if you would build a department of public health, you have here a foundation of proved worth which is capable of an enormous advancement if you but lend it your aid. This bureau

needs your support, and the sanitarians of this country need its help.

I believe that this spirit of mutual dependence should be developed. Changes in methods and forms are sometimes necessary, but in changing to meet the needs of the present, the builders should see to it that they are selecting a firm foundation of correct principles which will not fall in the future. The first of these principles, and the one which should receive our hearty support, is that of mutual dependence, "one for all and all for one," between the federal, state, county and municipal health authorities, and the medical profession as a whole.

Such cooperation has received the sanction of law by the Act of Congress of July 1, 1902. It should also receive the seal of approval of the medical profession to the end that our endeavors be correlated and harmonized, and that all of the agencies for the protection of the public health may come together beneath the broad banner of the movement for the public weal. And thus we may be fulfilling the saying that "all things work together for good . . ."

PSORIASIS FAMILIALIS *

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PHILADELPHIA

The thought would naturally occur to one familiar with the many etiologic factors which have been suggested as causative of psoriasis, why write on such a hackneyed subject unless something definite can be stated? I have written this short article with the sole purpose of eliminating one of the most frequently mentioned causative factors — heredity. So much has been mentioned in regard to the diseases of the forebears descending to the offspring, either of the next younger generation or, skipping these descendants, those of the second period, that a careful study has been made of the cases of psoriasis to eliminate this causative factor.

Various writers have attributed a large number of their cases of psoriasis to a hereditary cause. Wilson, according to his studies, found evidence of hereditary causation in 30 per cent. of his cases, Payne in 22 per cent., Abraham in 16 per cent., Rosenthal in 15 per cent., and Nielssen in 25 per cent.[1]

To disprove heredity as a cause of this affection I have examined carefully the records of the skin dispensary of the Hospital of the University of Pennsylvania, since its foundation in 1871 up to the present time; of the Howard Hospital skin dispensary, from its inception in 1889; of the skin dispensaries of the Pennsylvania, the Children's and the Presbyterian hospitals, from their inauguration, and only in those instances mentioned below has there been even a suggestion as to the hereditary origin of the disease.

During the last nine years each psoriasis patient has been interrogated as to the possibility of other cases of this affection in the immediate or the related family. Although in quite a few instances eruptions have been mentioned as being present in other members of the family, these could be easily distinguished from this disease because of the character of the outbreak, the course and the distribution of the affection. In several instances other members of the family were examined for a supposed psoriasis, and almost uniformly some other dermatologic condition was found to be present. The hereditary origin of the disease, which was mentioned so often by the patients, was found so frequently to be incorrect that no dependence could be placed on the history. Hundreds of cases of psoriasis have been seen and only in six families were we able to prove the presence of other cases of this affection.

On March 13, 1877, a girl 6 years old was brought to the skin dispensary of the Hospital of the University of Pennsylvania, exhibiting a marked case of this affection. Six days later her sister, aged 8, was examined and presented a typical eruption of the usual distribution.

There came to the skin dispensary of the Howard Hospital on Nov. 15, 1901, a man, aged 24, a laborer, born in Delaware, with a typical outbreak of psoriasis of three weeks' duration on the scalp and the extensor surface of the extremities. The brother, aged 16, came to the same hospital on Feb. 29, 1904, showing the disease on the scalp, the elbows and the back. The attack had first started three years before and developed a few weeks after the outbreak had appeared on the older brother.

A boy, 4 years old, was brought to the Howard Hospital skin dispensary, March 9, 1903, with a typical psoriasis of three months' duration on the trunk and the extremities. The mother also showed a characteristic outbreak, which exhibited its greatest intensity during pregnancy.

Some years ago a little girl was observed in the skin dispensary of the Children's Hospital, with a typical outbreak of this affection. The disease began at 3 years of age and the child is now 10. This little patient is still under observation and has been treated for several relapses. Two years ago her younger brother, aged 6, developed psoriasis and has been treated intermittently for over a year.

Two patients presented themselves at the skin dispensary of the Pennsylvania Hospital on Nov. 27, 1911; a mother aged 35 and her daughter 12 years of age; each exhibited a characteristic outbreak of psoriasis. No other member of this family, consisting of ten children and the parents, exhibited a cutaneous affection. The mother was attacked by psoriasis eight years ago and has never since then been entirely free of lesions. The eruption is more marked during the summer months. The lesions are from a pinhead to a silver dollar in size. The face shows an unusually marked involvement. The little girl had the advent of her attack one year ago, with the commencement of the warm weather. The lesions are generalized with a marked outbreak on the face.

A girl, aged 14, came to the skin dispensary of the Pennsylvania Hospital, on May 15, 1912, with a typical generalized outbreak of psoriasis of six years' duration. The face exhibited a marked involvement. The eruption had been more marked during the summer months. The mother, aged 49, came under observation twelve days later and presented a characteristic outbreak of this affection, which had run an intermittent course of twenty-four years. The twelve other children in the family

* Read in the Section on Dermatology, of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

1. Quoted by Pollitzer, Tr. Am. Dermat. Assn., thirty-third meeting, 1909, p. 116.

exhibited no skin eruption. The mother has a more marked involvement during the cold weather.

Dr. Dengler, my assistant at the Howard Hospital, has observed several cases of psoriasis in members of a family under his care. Five members of the family presented psoriasis — the grandfather, the father and three sons.

Poor[2] related six instances of family psoriasis; the father and the mother, in each, exhibited the outbreak.

McCall Anderson[3] reported a family tendency to this affection. The home circle consisted of the father, the mother, two daughters and a son; the mother alone was without the disease. In another instance recorded by Anderson, the husband developed the affection some years after the wife had been attacked.

Unna[4] mentioned the appearance of the outbreak in three children in the same family, their nurse having developed the disease some time previously.

Hammer[5] refers to four cases in a household. The father and the daughter developed psoriasis at the same time; a considerable period afterward the mother and an aunt exhibited the disease.

Nielsen[6] recorded two instances in the same family; the mother showed the disease some time after the daughter had been attacked.

Aubert[7] reported two cases in the same family; the husband showed the disease some little time before the wife was attacked.

Beissel[8] recorded the appearance of the eruption in several members of two different families. Two brothers developed the condition while traveling together; two cousins contracted it apparently from the grandfather.

Meneau[9] mentioned the occurrence of the outbreak in a girl of 8, which was followed by the affection in the sister, aged 3.

Cantrell[10] reported two series of family cases of psoriasis. A boy of 12 first acquired psoriasis, several years later a sister was attacked and a year subsequently the mother showed a typical outbreak. In the other family, the son of 18 first developed the disease and later the mother, aged 50, exhibited the eruption.

Crocker[11] has seen five out of seven members of a family with typical psoriasis.

Kogon[12] has recorded two cases of family psoriasis. Schamberg[13] has also mentioned two instances, a mother and her daughter.

It should be stated in conclusion, the further one delves into the etiology of psoriasis the more convinced one becomes that this affection is of parasitic origin.

CONCLUSIONS

1. Psoriasis is not a hereditary disease.
2. Very seldom do we find more than one case in a family.
3. I have been able to discover but six instances in hundreds of cases examined.
4. Psoriasis familialis has been very little touched on in dermatologic literature.
5. The etiology of psoriasis is as yet to be ascertained, but cumulative evidence points strongly toward a parasitic origin.

I wish to express thanks to Dr. M. B. Hartzell and to Dr. C. N. Davis for the privilege of using some of their cases.

332 South Seventeenth Street.

2. Poor: Vrtljschr. f. prakt. Heilk., 1878, p. 103.
3. Anderson, McCall: Psoriasis and Lepra, London, 1865, pp. 12, 37.
4. Unna: Quoted by Schamberg, Trans. Am. Dermat. Assn., Thirty-Third Meeting, 1909, p. 128.
5. Hammer: Mitt. a. d. med. Klin. Würzburg, 1886, ii, 404.
6. Nielsen: Monatsh. f. prakt. Dermat., 1892, xv, 375.
7. Aubert: Quoted by Schamberg, Tr. Am. Dermat. Assn., thirty-third meeting, 1909, p. 128.
8. Beissel: Aix le Chapelles as a Health Resort, Lond., 1892, p. 121.
9. Meneau: Jour. de méd. de Bordeaux, 1895, p. 578.
10. Cantrell: Med. Rec., New York, 1896, xlix, 627.
11. Crocker: Diseases of the Skin, Ed. 3, 1905, p. 365.
12. Kogon: Dermat. Centralbl., 1909, xii, 132.
13. Schamberg: Tr. Am. Dermat. Assn., thirty-third meeting, 1909, p. 129.

ABSTRACT OF DISCUSSION

DR. WILLIAM T. CORLETT, Cleveland: In 1881, at the Blackfriars Skin Hospital, I saw representatives of three generations of the same family suffering from psoriasis. The fact that the disease was hereditary was strongly insisted on, and it made quite an impression on me. In later years, however, I grew less positive regarding a hereditary factor in psoriasis, and the results of my observations have been quite in accordance with those of Dr. Knowles. In many cases of psoriasis one gets a history of other skin diseases, such as dry eczema or seborrhea in the same family but it is rather exceptional to find psoriasis affecting other members of the immediate family or a clear history of the disease in the ancestry.

DR. JAMES M. WINFIELD, Brooklyn: I think this whole question hinges on what we mean by inheritance. Probably, strictly speaking, we do not inherit any disease, but it is possible that certain persons inherit a skin of special texture which renders it more liable to a psoriatic eruption. In carefully looking into the histories of these family cases of psoriasis we not infrequently learn of other cases of seborrhea or a dry skin, and it is probably this peculiar texture of the skin that is inherited and not psoriasis itself.

DR. MARCUS HAASE, Memphis: I have three cases of psoriasis that developed in individuals after entering families in which psoriasis already existed.

One woman, who married a widower with one child affected with psoriasis, developed the disease seven years after marriage. The second, a negro nurse girl, developed distinct psoriatic patches on both elbows about one year after beginning work in a family in which there were two cases. The third case occurred in an orphan boy, two and one-half years after being adopted by a family in which the disease existed. In the first case, a complete family history revealed no member with the disease. In the other two no family history was obtainable.

DR. F. C. KNOWLES, Philadelphia: It is rather unfortunate that the etiology of many of our skin diseases is arrived at more or less by elimination. That is why I carefully reviewed hundreds of cases to show that in the few instances in which there is a history of family psoriasis occurrence must be either a coincidence or possibly due to some unknown bacillus.

LACTIC ACID AND COLONIC IRRIGATION IN THE TREATMENT OF PSORIASIS *

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Some one has said that if one wishes to learn how much is known of the etiology of a certain disease it is only necessary to look at the chapter on its treatment; if the list of remedies is large and diversified, it is an evidence that but little is known of the cause of the disease in question. In spite of the great advance made in dermatology, psoriasis still remains a disease that baffles our therapeutic skill, mainly because we are uncertain as to its etiology. This introduction will serve as an excuse for presenting a paper on such a trite subject as psoriasis.

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

While it is perhaps necessary to touch on the etiology of this disease, time will not permit of a detailed discussion, nor is it material, except in so far as it is necessary to explain why this treatment was instituted.

The claims of those who think psoriasis is of parasitic origin have much to verify their belief, but on closer study of the subject it becomes apparent to the unprejudiced observer that the parasitic theory is not yet proved, while on the other hand the belief that this disease is the expression of some disturbance in metabolism seems to be nearer the correct solution of the problem; for many cases of psoriasis have been observed in which there were unmistakable evidences of faulty metabolism, as for instance rheumatism appearing simultaneously with the outbreak of the cutaneous disease. In these cases the psoriasis is perhaps only a symptom of the general systemic disturbance.

It might not be beyond reason to assume that the fundamental cause of the dermatosis is some disturbance of the metabolic function, which by lowering the cutaneous resistance renders the skin susceptible to the invasion of some special organism that, providing all things are favorable for its growth, causes the characteristic lesions of this common and intractable disease; however, this is only a speculation, and much more study must be given to the subject before this, or any other theory heretofore advanced, can be verified.

Having always been of the opinion that psoriasis was due to metabolic changes and not primarily a parasitic disease, several years ago I began to treat many of my patients according to the method outlined in the title of this paper, and it has been my gratifying experience that the symptomatic cure and the permanency of the cure are far better than when the other well-known remedies and measures were employed. All the cases receiving lactic acid and colonic irrigation were controlled by a similar number treated by the classical methods.

Long before the dictum of Metchnikoff that the lactic acid bacillus was the remedy for all the ills the flesh is heir to, even old age, it was a well-known fact that milk, buttermilk and fresh pot cheese prevented and checked intestinal fermentation and putrefaction. This action is brought about by lactic acid manufactured by the lactic acid bacillus; further experimentation proved that free lactic acid would have a similar inhibitory effect on the fermentative putrefactive changes of the contents of the intestinal tract. Later Metchnikoff demonstrated that the lactic acid bacillus inhibited and prevented the growth of the colon bacillus and many of the other deleterious bacteria of the alimentary canal. Taking these various views and facts together it occurred to me that lactic acid might be of benefit in psoriasis, especially if the psoriasis were due to auto-infection, and disturbed metabolism caused by putrefaction and fermentation of the intestinal contents.

The high colonic irrigation was instituted because of the fact that psoriatics are more or less constipated, and examination of the stools of many patients reveals the presence of mucus and shreds, indicating that there is a low grade of inflammation of the mucosa of the lower intestines. In my cases the irrigations, in every instance, cured the chronic constipation by stimulating peristalsis; they also washed away all decomposed and fermenting refuse that was lodged high up in the colon.

If psoriasis is one of the evidences of faulty metabolism, and if my reasoning is clear and the theory correct, we have here an ideal combination for combating auto-intoxication and metabolic disturbances, and thereby removing the psoriatic etiologic factor. Lactic acid disinfects the alimentary canal by its antibacillary action; the colonic irrigation washes out any decomposing masses in the intestinal tract, relieves the constipation by stimulating peristalsis, tones the intestines by improving the circulation, relieves any passive inflammatory changes that might be present and ultimately elevates the cutaneous resistance by improving the general health.

Nothing original is claimed for this method of treatment, for both lactic and nitric acid have been used in psoriasis, and colonic irrigation has been recommended by a number of observers as a method of treatment in psoriasis, eczema and other diseases of metabolic origin.[1]

As all of the cases treated by this method were typical examples of psoriasis it will be unnecessary to enter into detail; therefore a general summary will be given.

This report is based on the results obtained in forty cases, thirty-two male and eight female patients, natives of nearly every part of the world, although the Anglo-Saxon predominated, 80 per cent. being either German or English, or of that descent; the ages ranged from 6 to 59 years — four patients were under 20, eight between 20 and 30, nine between 30 and 40, fourteen between 40 and 50, and five between 50 and 60; thirty-two were hospital cases, the remaining eight were private patients, and all except one, the 6-year-old child, were put in a hospital to enable me to carry out this special line of treatment. The stay in the hospital ranged from four days to four months, the average stay being six weeks. Most of the hospital patients were from the lower walks of life; nearly all of the men were intemperate and some of them drank to excess. Five of the patients had signs of kidney degeneration, such as albumin, casts, etc.; five others suffered from rheumatic arthritis. One, a woman, aged 34, completely crippled from the arthritic changes, showed marked improvement after she had been on the treatment for a month; the cutaneous lesions disappeared and her general condition improved, but another exacerbation quickly supervened. In passing, it might be interesting to note that later this patient was treated by the intramuscular injections of salvarsan in petrolatum, the drug given weekly in 1 decigram doses until she had received in all 8 decigrams. After the third injection a marked change for the better became noticeable, the skin rapidly began to clear, the stiffened joints limbered up and her general condition became better than it had been for years. It is now six months since the salvarsan was given; the psoriasis has not recurred and the rheumatic condition is quiescent.

Only eight out of the forty patients gave a history or showed signs of having had syphilis, and these were the only ones that gave a positive Wassermann reaction. One patient had glandular tuberculosis as a complication.

In twenty-three cases the attack was cured, sixteen were improved; many of those who showed slight improvement were in the hospital for only a short time, some as brief as four days; in one hospital case, that of the patient who had tuberculous adenitis, no improvement was noted after four months of treatment. Thirty of the patients received only the lactic acid and the irrigations; the ten remaining had in addition chrysarobin ointment.

1. Mantle, A.: Successful Treatment by Colonic Lavation of Some Cases of Eczema, Psoriasis, etc., Lancet, London, July 30, 1910.

It is an interesting fact that in those patients who exhibited chronic thickened patches, and also those who had had many acute exacerbations in addition to the chronic lesion, the outlined treatment seemed to act beneficially up to a certain point. The acute symptoms would quickly disappear and the fresh patch clear up, but the old chronic ones would persist; then if chrysarobin were used, these patches would perceptibly melt away.

If there is anything in the parasitic theory, it is possible to assume that the special parasitic organism may remain locked up in the old resistant patch, much the same as the spirochete does in the tertiary syphilitic tumor. When the resistance of the skin is elevated by any means—treatment, improved hygiene, etc., the more acute and superficial lesions disappear while the older ones may remain, as was the case in many of these here reported. Chrysarobin is the parasiticide, and if applied after the general tone of the skin is improved, it cures the attack by removing the parasitic foci, as demonstrated by the existence of the resistant, localized patches.

The urine of all of the patients was examined and in most of the cases it showed evidences of metabolic disturbances. The urinary changes in connection with psoriasis, and the effect of this line of treatment on these cases will furnish the subject for a further communication. Practically all of the forty patients were chronically constipated, and in many cases the stools contained mucus and shreds.

To illustrate the type of case in which the treatment was used, I report in detail two histories:

Case 1.—The first patient was a youth of 17, who, except for a sluggish circulation had always been perfectly healthy, had developed rapidly and was a great overgrown boy. He had a seborrheic skin and was of a constipated habit. He came from a home of affluence, but was accustomed to unwholesome food. During the summer a few psoriatic patches, twenty in number, developed over various parts of the extensor surfaces of his body; in spite of treatment they remained more or less prominent throughout the summer and winter; in the following spring, nearly a year after the disease first appeared he took a strenuous college entrance examination and became greatly reduced in health; his constipation became more pronounced and his general resistance was considerably below par. Just as he was preparing to leave for his home an acute attack of psoriasis rapidly developed, involving nearly the whole cutaneous surface.

After the attack had lasted for two weeks he was referred to me. I immediately placed him in the hospital, and instituted the lactic acid and colonic irrigation[2] treatment; the external treatment consisted of lanolin and cold cream, used simply to keep the skin from scaling. His condition rapidly improved, and at the end of the third week he was dismissed from the hospital cured.

I have seen or heard from him at frequent intervals during the past five years and only once has there ever been any recurrence of the psoriasis, a year after the primary attack and limited to a few small patches over the shins. Lactic acid was given without the irrigations, and within a month the cutaneous lesions had all disappeared; the patient has remained well ever since, and the chronic constipation is entirely relieved.

Case 2.—The second patient, a child, aged 6, was sent to me about three months after the primary attack. I hesitated to place her on this treatment, but after trying the classical remedies for six weeks without any benefit, lactic acid and colonic irrigation were instituted; the good effects became apparent at once, and in two months the patient was well. She has had three recurrences, and each time the same treatment was used. She is now ten years old and is free from any cutaneous blemish.

I hope that this report is not too optimistic, or that too much is claimed for this method of treatment; for it is a well-known fact that psoriasis is a disease that will often improve under simple hospital rest, supplemented by indifferent treatment. In view of this fact, every case that is here reported was controlled by others similarly hospitalized and treated by the classical methods. The cases treated by colonic irrigation responded much more readily than the controls; consequently, it would seem that this report is justified, for it is the summary of forty cases in which either cure or marked benefit was obtained from a simple line of treatment.

47 Halsey Street.

2. The irrigations are best given with the patient in the knee-chest position. From 2 to 3 quarts of normal salt solution at body heat is slowly injected, with the reservoir about 3 feet above the patient's body. The lactic acid is given in doses ranging from 20 drops to 1 dram. It is best given in a large glass full of water that has been sweetened with sugar, not glycerin.

ABSTRACT OF DISCUSSION

Dr. L. Duncan Bulkley, New York: Some of us have for many years advocated the view that psoriasis is the result of metabolic disturbances which prepare the skin for the development of either one of the ordinary parasites or of a parasite which we have not yet found. We know that these lesions yield to parasitic treatment, such as chrysophanic acid or the white precipitate ointment. We know that many of these patients, under a proper diet and by the avoidance of nitrogenous food, remain free from lesions for long periods of time. I have not resorted to the use of colonic irrigations, but we perhaps may accomplish the same purpose by a strict supervision of the diet, and clearing out of the intestinal tract when necessary. I have seen good results from nitric acid.

Dr. M. L. Ravitch, Louisville: Psoriatics, like the poor, will always be with us, and I do not know of any one who can assert that he ever cured a case of psoriasis. Lactic acid, nitric acid, high colonic irrigations—any remedy, in fact, new or old, may temporarily produce good results. I have used lactic acid and Bulgarian bacilli, and have seen very little benefit derived from it. The only remedy that I have seen followed by good results in psoriasis, is Donovan's solution, beginning with five drops and gradually increasing in dosage. In one case of thirty years' standing I have kept the eruption in abeyance by the use of hot soda baths and Donovan's solution, but I do not speak of the patient as cured.

Dr. J. M. Winfield, Brooklyn: I give the dilute lactic acid from 10 to 30 drops, well diluted with water and taken before meals. The colonic irrigations should be made with one, two or three quarts of normal salt solution, given once a day. If constipation is very marked, they can be given twice daily.

Intestinal Putrefaction and Water Drinking.—Data were presented which indicated a marked decrease in the output of bacteria in the feces when normal men were caused to increase their water ingestion by 3,450 c.c. per day, the water being taken with meals. That intestinal putrefaction was also diminished under these conditions was indicated by an accompanying decrease in the urinary indican values during the interval of high water intake. The course of the total ethereal sulphate excretion did not parallel with that of indican thus furnishing additional evidence in favor of the view that indican has an origin different from that of the other ethereal sulphates. When a normal man passed into a seven day fast from a high protein level, it was found that the daily output of fecal bacteria was markedly lowered, with a return to normal values with the inception of a post-fasting period of low protein character. Indican and total ethereal sulphates were also decreased under the fasting regimen, this decrease being followed by an increase on the subsequent ingestion of food. – Blatherwick, Sherwin and Hawk in *Jour. Biol. Chem.*

THE RELATION OF AORTITIS TO SYPHILIS, AND THE IMPORTANCE OF ITS RECOGNITION *

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It is not quite ten years since Chiari,[1] Marchand[2] and others described a condition found post mortem in the aorta which they named mesaortitis. They pointed out the frequency with which this condition was associated with manifestations of syphilis or with a definite history of the disease. Chiari found that a large proportion of paretics showed this affection and Marchand pointed out its constant association with aneurysm of the aorta. Their conclusions gained support from the work of Schmorl,[3] Wright and Richardson,[4] and others who from 1907 to 1909 reported the presence of spiral organisms morphologically similar to the *Spirochæta pallida* in aortas showing mesaortitis. Since then, these observations have been confirmed by numerous workers. The association of mesaortitis with the other signs of syphilis and the finding of the *Spirochæta pallida* in the lesions have given this condition definite recognition as a result of syphilitic infection.

As viewed at autopsy, this syphilitic involvement of the aorta has several striking characteristics. It usually occurs at the root, sometimes extending not more than 5 cm. above the aortic valves, although a large part of the arch may be affected. The aorta is thickened in patches, shows pitting and scarring in places, perhaps small aneurysmal dilatations. Calcification is rare, but there is usually an elastic rubbery thickening. This thickening extends even to the valves. Microscopically, it is found that there is a primary necrosis of the media and probably of the intima with development of the reparative connective-tissue. The spirochetes are found in the media and the intima in and about the necrotic areas. The process is a chronic one and is usually a late manifestation of the disease. The demarcation of this form of arterial disease from the general class of arteriosclerosis has led to an increased interest in the syphilitic affections of the heart and aorta, and it is now well recognized that the involvement of the aortic cusps in syphilitic mesaortitis is very common. Wright found an involvement of these valves in all cases in which spirochetes were found in the aorta. Longcope[5] found that mesaortitis was associated with 81.5 per cent. of eighteen cases in which there was pure aortic valvular disease, that is, disease of this valve uncombined with that of the other valves.

While clinical observation cannot in any way take the place of pathologic study, a great many interesting facts have been brought out since the introduction of the *x*-ray and the Wassermann reaction as adjuncts to the study of diseases of the circulatory system. Longcope gives the results of observations by himself and seventeen other writers, showing that out of a total of 182 cases of heart-disease in which the aortic valve was involved, 135, or 74.1 per cent., gave strongly positive Wassermann reactions. Three of Longcope's cases came to autopsy and in all three, typical syphilitic aortitis was found associated with the disease of the aortic valves, and in all spirochetes were found in the aorta.

This report is written for the purpose of enumerating additional cases of aortic disease which have been studied clinically with the aid of serologic and *x*-ray examination. It seems to us important that if aortitis does occur with some degree of frequency as a late visceral complication of syphilis, this fact should be recognized. Moreover, if it is shown that antisyphilitic treatment can be administered with benefit in an early case of syphilitic aortitis, the early diagnosis of aortitis and, especially, the recognition of the etiologic factor become of the utmost importance to the clinician.

The series embraces the statistics of thirty-six cases of aortic disease which have come under our observation. By aortic disease we mean involvement of the aorta or the aortic valves, singly or in combination. Included in this number are three cases in which there was a complicating mitral lesion. Only cases in which the anatomic diagnosis could be made with positive certainty, either by physical signs or by the *x*-ray examination, have been included. Of this series, twenty-seven (75 per cent.) showed positive Wassermann reactions. The proportion is almost identical with that which Longcope reports in his collected cases. When it is remembered that a negative Wassermann reaction cannot be interpreted as evidence against an old luetic infection, it is apparent that the actual proportion of cases with a luetic basis is undoubtedly greater than our figures would represent. An analysis of the group showing positive Wassermann reactions, which we think fair to call cases of syphilitic aortic disease, should be profitable.

In our series, the occurrence among men was much more frequent than among women. Of the total of twenty-seven, nineteen (70.3 per cent.) were men. This suggests the possibility that the conjunction of hard physical labor with syphilis determined the aortic location. Some support is lent to this supposition by the fact that the majority of the men were or had been engaged in hard labor, as day-laborers, puddlers, masons, bricklayers, hod-carriers, etc.

The ages of the twenty-seven patients ranged from 29 to 64, but the great majority (twenty-three patients, 85.1 per cent.) were between the ages of 35 and 55.

Ages	No. of Cases
Between 25 and 29	1
Between 30 and 34	1
Between 35 and 39	4
Between 40 and 44	6
Between 45 and 49	5
Between 50 and 54	7
Between 55 and 59	2
Between 60 and 64	1
Total	27

The late incidence of this manifestation may be understood when we turn to the patients' accounts of infection and find that of the twelve patients who were able or were willing to give an adequate history, the average number of years since the appearance of the chancre was about seventeen (17.2). The actual numbers ranged from eleven to "many over twenty-five." It is evident, then, that this process is distinctly a late one.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

* From the Department of Medicine of Western Reserve University.
* The serologic portion of this report is from the H. K. Cushing Laboratory of Experimental Medicine of Western Reserve University.

1. Chiari: Verhandl. d. deutsch. path. Gesellsch., 1903, p. 137.
2. Marchand: Verhandl. d. deutsch. path. Gesellsch., 1903, p. 197.
3. Schmorl: München. med. Wchnschr., 1907, liv, 188.
4. Wright and Richardson: Boston Med. and Surg. Jour., 1909, clx, 539.
5. Longcope: Bull. Ayer Clinical Laboratory, 1910, No. 6, p. 60.

A significant fact in regard to these cases is the long period of latency. In only three of the entire twenty-seven was a definite account of the amount or nature of previous treatment to be secured. Two men had had treatment for one month each; one man had taken one and one-half years of treatment. Apparently none of the twenty-seven cases, except three with cerebrospinal involvement had shown any obvious or troublesome signs of lues between the disappearance of the early signs and the oncoming of aortic disease during the lapse of an average of seventeen years.

Another important fact is the concomitant occurrence of cerebrospinal syphilis in one case and of tabes dorsalis in two. One of the patients, a woman (B. S.), aged 38, presenting both aortic disease and tabes dorsalis, showed the stigmata of congenital lues.

The symptoms of aortitis are usually indefinite and for that reason frequently are passed over as of little moment. Pain referred to the region of the upper sternum is often the first symptom. The pain may be slight and inconstant, is usually brought on by exertion, and becomes more intense as time goes on until it has all the characteristics of angina pectoris. Pain was a prominent early symptom in eighteen (66 per cent.) of our twenty-seven syphilitic cases. At times the patients complain of a sense of constriction as if they had a belt drawn tightly about the upper part of the chest, until they feel as if they would strangle to death. Dyspnea on exertion often occurs early. It is not infrequently paroxysmal in character, the patients complaining simply of "asthmatic attacks," which come on after slight exertion or after trifling excitement. One of our patients was perfectly comfortable while at rest, but the least effort brought on an attack of choking, which made housework impossible. It is interesting to note that though this patient could walk without much trouble, sweeping at once brought on an attack. At times the dyspnea is associated with fainting spells. A dry, irritating, non-productive cough is fairly common, especially after the dilatation of the aorta has become well marked. Palpitation of the heart is rare as an early symptom. It occurred in but one of our cases.

Early aortitis gives but meager physical signs. By the time the symptoms have become severe enough to cause the patient to seek medical advice, physical examination will usually reveal the presence of a varying amount of dulness in the second intercostal spaces to the right and left of the sternum. This increased dulness was noted in seventeen of our twenty-seven cases. Often this is the only sign, though it may be accompanied by a diastolic impact which is palpable over the upper sternum. Even in the early cases it is usual to hear diastolic murmurs along the left border of the sternum referable to the aortic valve, and when the process has become well established, systolic and diastolic murmurs originating at the aortic orifice are common. Such murmurs were heard in nineteen of our series. The tracheal tug is not usually demonstrable early in the condition, unless there is extensive involvement of the arch of the aorta. This sign was noted in five of the twenty-seven cases. Visible pulsations, just to the right or to the left of the sternum in the second intercostal space, occur late in the course of the disease. Only seven of our cases showed visible pulsations in this region.

This brief review will suffice to indicate that the symptoms and signs of early aortitis are extremely slight, and are of a nature to render early recognition difficult. We have found the method of direct percussion of the area of the aorta to be of the greatest value in detecting a slight increase in dulness to right and left of the sternum. It is important to remember that the physical signs may vary early in the condition, being well marked shortly after exertion or excitement and disappearing again during rest.

The *x*-ray plate served to verify the results of physical examination, and it seems almost indispensable in early lesions in which it would be unreasonable to expect striking signs. A properly prepared photograph gives a definite and convincing picture, if there is dilatation of the aorta.

The nine patients who had aortic disease with negative Wassermann reactions deserve attention. Three gave definite histories of rheumatism. Another, who showed unmistakable signs of a well-marked aneurysmal dilatation of the transverse arch, stated that the symptoms of pain and shortness of breath had followed a severe blow on the sternum due to a fall about three years before observation.

One case is of such interest as to warrant a detailed account.

CASE 1.—Mrs. F. C., aged 30, brought her daughter, aged 10, to the children's clinic at the Lakeside Hospital Dispensary. The child showed definite stigmata of congenital lues, and both mother and daughter gave strongly positive Wassermann reactions. The mother admitted a luetic infection shortly before the birth of her child. At the time of examination the mother appeared to be in excellent health. About six months later, she returned to the dispensary complaining that for a month she had been getting short of breath on exertion and that recently she could not do her housework on account of a sense of oppression under the upper part of the sternum which came on as soon as she began to sweep or dust. She was pale and manifestly in distress. The heart was enlarged slightly to the left and there seemed to be a slight increase in dulness to the left and to the right of the upper part of the sternum. There was a slight though definite diastolic impact over the manubrium, and a very faint diastolic murmur was heard along the left border of the sternum. The patient was admitted to the wards of the hospital where an *x*-ray was taken after a rest in bed of twenty-four hours. This, it is interesting to note, showed no dilatation of the aorta. While in the hospital she had several attacks resembling those of angina pectoris. The dispensary physical findings were confirmed. Two days after her admission, the patient sat up in bed and died. The presumptive diagnosis here is an early syphilitic involvement of the root of the aorta. Whether the death was due to coronary interference or vagus involvement is a matter of pure speculation. The case is interesting because of the early date at which the signs and symptoms were observed and because the previous observations settled the diagnosis of latent syphilis.

CASE 2.—Another case, which is of more practical importance and is worthy of a report in some detail, was seen in the dispensary at Lakeside Hospital. The patient, F. K., a man, showing signs of a dilated aorta and aortic insufficiency, which were definite clinically and were confirmed by the *x*-ray, admitted lues and showed a strongly positive Wassermann reaction. His complaint was of substernal distress and pain of two months' duration. He was given antiluetic treatment, and the response to it was so prompt that at the end of the first week he had no pain and little distress and when last seen was practically free from his symptoms.

Alleviation of pain by mercurial treatment was noted with other patients. The improvement was especially marked with one (J. P.). In this instance, inunctions were used with great relief.

These cases raise the question as to the utility of specific treatment after a luetic mesaortitis has pro-

CASES IN WHICH AORTA OR AORTIC VALVES, OR BOTH, WERE AFFECTED

No.	Initials	Hosp.*	Sex	Age	Years Since Infection	Rheumatism	Cardinal Complaint	X-Ray‡	Wass.‡	Diagnosis	Remarks
1,386	M. L.	L. H. D.	M.	27	Denied.	None.	Pain in heart.	+	—	Aortic regurgitation and dilated arch.	
1,053	L. R.	L. H. D.	F.	58	Denied.	None.	Pain in throat.	0	+++	Dilated aorta.	Aortic dulness increased; heart enlarged; right radial > left.
1,117	R. D.	L. H. D.	F.	55	Indefinite.	None.	None.	0	+++	Aortic regurgitation.	Double aortic murmur; heart enlarged to left.
1,081	B. S.	L. H. D.	F.	38	Congen.	None.	Pain in legs.	+	+++	Dilated aorta and tabes.	
826	P. F.	L. H. D.	M.	50	19	None.	Cough.	0	+++	Dilated aorta.	Tracheal tug; pulsation 2 space rt. of sternum; aortic dulness increased.
714	M. K.	L. H. D.	M.	42	Denied.	None.	Pain in side; cough.	—	—	Aortic stenosis and regurgitation.	
701	A. C.	L. H. D.	F.	53	Many.	None.	Pain to shoulder-blade.	+	+++	Dilated aorta and aortic regurgitation.	
352	R. A.	L. H. D.	M.	20	13	Subacute.	Pain in chest and dyspnea.	0	+++	Aortic stenosis and regurgitation.	No signs of dilated aorta.
144	P. M.	L. H. D.	M.	38	Denied.	20 years before.	Palpitation and dyspnea.	0	—	Aortic regurgitation.	
64	J. P.	L. H. D.	M.	50	Denied.	None.	Pain in side.	+	+	Dilated aorta and aortic regurgitation.	
29	J. M.	L. H. D.	M.	26	Denied.	None.	Dyspnea on exertion.	—	—	Aortic regurgitation.	
54	A. L.	L. H. D.	F.	65	Denied.	Not noted.	Pain in sternum.	+	—	Aneurysm arch of aorta.	Visibly pulsating tumor, 2d lt. I. S.; tracheal tug; symptoms followed fall three years ago.
368	J. L.	L. H.	M.	37	22	Yes.	Pain and dyspnea.	0	+++	Dilatation of arch of aorta.	Also pericarditis, chronic nephritis, edema; autopsy.
669	E. F.	L. H.	F.	43	Indefinite.	None.	Dyspnea; pain in "heart."	+	+++	Aneurysm and transverse arch.	Also aortic regurgitation.
373	C. H.	L. H.	M.	49	Denied.	Yes.	Dyspnea.	0	+	Dilated arch; aortic regurgitation.	Aortic systolic murmur and thrill; diastolic aortic murmur.
318	A. B.	L. H.	M.	53	Denied.	None.	Precordial pain and dyspnea.	+	—	Aortitis and dilatation aortic and mit. regurg.	Left pupil > right; marked dilatation of aorta; diastolic impact and murmur.
414	A. S.	L. H.	M.	49	Denied.	None.	Epigastric pain and dyspnea.	0	+++	Mitral and aortic regurgitation.	Heart enlarged; aortic dulness increased.
78	S. S.	L. H.	M.	46	Denied.	21 years before.	Dyspnea and cardiac pain.	0	++	Aortic regurgitation; dilatation of aorta.	
268	J. Z.	L. H.	M.	38	20	None.	Pain in heart and left arm.	0	++	Aortic regurg.; luetic aortitis.	
115	G. B.	L. H.	M.	51	Many over 25	None.	Periodic dyspnea.	+	+++	Aortic aneurysm and regurgitation.	Autopsy.
186	A. W.	L. H.	F.	30	Denied.	6 years before.	Dyspnea.	0	—	Aortitis; aortic and mitral regurgitation.	Signs of dilated aorta slight; definite signs of valvular involvement.
1,005	J. C.	L. H.	M.	53	Denied.	24 years before.	Dyspnea; recent pain in left side.	0	+++	Aortic and mit. regurg.; angina pectoris.	No increase in aortic dulness; blood-pressure 240 mm. Hg.
1,476	C. F.	L. H.	M.	43	20	None.	Precordial pain and dyspnea.	+	+++	Aneurysm of aorta.	Also cerebrospinal lues.
1,959	S. L.	L. H.	M.	53	12	11 years before.	Cough and pain in chest.	+	+++	Aortic regurg. and stenosis; dilated aorta.	Aortic dilatation slight.
2,170	D. C.	L. H.	M.	43	23	None.	Pain in chest and epigastrium; dyspnea.	+	+++	Aneurysm of aorta.	Also tabes dorsalis.
1,576	J. R.	L. H. D.	M.	64	20	Twice.	Pain in back.	+	+	Aneurysm of aorta; aortic regurgitation.	
1,854	F. K.	L. H. D.	M.	38	16	None.	Pain in chest.	+	++	Aortitis; aortic regurgitation.	
2,265	E. M.	L. H.	M.	41	Denied.	Yes.	Dyspnea and cough.	+	+++	Aortitis; aortic and mitral regurgitation.	
2,290	S. L.	L. H.	F.	36	Denied.	5 years before.	Fainting spells.	—	—	Aortic stenosis; regurgitation.	
1,564	M. T.	L. H.	F.	60	No history.	None.	Dyspnea.	+	—	Aortitis.	Tenderness over precordium; diastolic murmur in 2 R.I.S.
2,213	N. F.	L. H.	F.	42	Denied.	4 years before.	Pain in stomach; dyspnea; palpitation.	+	+++	Aneurysm of aorta.	
471	J. P.	†	M.	50	17	None.	Pain and shortness of breath.	0	++	Luetic aortitis.	R. and L. dilatation over aorta; syst. thrill and murmur over aorta; marked imp. with treatment.
993	C.	M. H.	M.	48	14	None.	Palpitation.	0	+++	Aneurysm of aorta.	Marked dilatation of aorta and heart.
371	T.	C. H.	M.	42	Denied.	None.	Paroxysmal dyspnea.	+	+++	Aneurysm of aorta.	
242	Mrs. F. C.	L. H.	F.	32	11	Not noted.	Pain and cough.	—	+++	Aortitis.	Child, aged 10 years; has cong. lues; patient died suddenly; no autopsy.
1,912	E. T.	L. H.	F.	48	Denied.	None.	Dyspnea.	+	+++	Dilatation aorta; aortic stenosis and regurg.	

* Initials in this column stand for the following institutions: L. H. D., Dispensary of Lakeside Hospital and Western Reserve University; L. H., wards of the Lakeside Hospital, Cleveland; M. H., Marine Hospital, Cleveland; C. H., City Hospital, Cleveland. † Case of Dr. A. S. Maschke, to whom we are indebted for the privilege of reporting it. ‡ In these columns the plus sign (+) means positive findings; the minus sign (—), negative findings; a zero (0) shows that no x-ray was taken.

gressed to such a point as to make it recognizable. The question is most important, but aside from the case mentioned, it is impossible for us to speak from experience. In these cases, particularly those in which a positive Wassermann reaction exists and in which the symptoms are of short duration, it would seem that antisyphilitic treatment should be administered vigorously. For although one cannot expect to repair the destruction that has already taken place, there is a hope in every case of this kind of arresting the process, which if left alone will lead in all probability to actual aneurysm-formation with all its distressing features.

SUMMARY

From the cases reported by others and the work done on them, together with the material on which this paper is based, the following conclusions seem justifiable:

1. A large proportion (70-75 per cent.) of lesions of the aorta or aortic valve are syphilitic in origin.

2. Syphilitic aortitis is a definite pathologic and clinical manifestation of syphilis, usually coming late after the disappearance of the early manifestations following a long period of latency.

3. Aortitis occasionally is associated with luetic cerebrospinal manifestations.

4. A complaint of pain in the chest and dyspnea should lead to careful examination of the thorax, especially in the region of the aorta. In case of suggestive or doubtful physical findings, an *x*-ray examination is desirable.

5. After a diagnosis of aortitis has been made, a Wassermann reaction should be performed. A positive reaction indicates the desirability of urgent mercurial treatment.

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ABSTRACT OF DISCUSSION

DR. DELANCEY ROCHESTER, Buffalo, N. Y.: In the hospital in Buffalo we have had a number of cases of aortitis and cardiosclerosis; we have taken pains in every case to have the Wassermann reaction instituted. Unfortunately, I am not prepared to give the actual percentage of cases now; but a large number gave the positive Wassermann test. The cases that responded to the Wassermann reaction improved under the hypodermic administration of mercury together with a certain amount of rest.

DR. NATHANIEL BOWDITCH POTTER, New York: At the City Hospital in New York City, Dr. Harlow Brooks has been giving salvarsan to a number of selected patients of the kind under discussion. Two patients on whom mercury had no effect whatever in relieving pain and the symptoms of broken compensation were very much improved by the use of salvarsan. The dose was small and was repeated only three or four times.

I think that this is a very important point—that in a case of aortic involvement, even with no definite history of syphilis, antisyphilitic treatment should be employed. Such a patient has been under my observation for a number of years, and he had a definite history of an attack of acute articular rheumatism; but it was not until the Wassermann reaction, which should be used as a routine procedure, gave a positive result that under the use of mercury the patient rapidly improved.

DR. HENRY KENNON DUNHAM, Cincinnati: There is one point which I think is slightly misleading: the possibility of diagnosing these early aortic lesions, even to a limited extent, by means of percussion. Only 44 per cent. of 100 patients examined by *x*-ray and percussion were demonstrable by percussion. Enlargement to the right is more difficult to detect than enlargement to the left. I think, however, that this is rather a low percentage, because many patients examined were tuberculous.

DR. LOUIS FAUGERES BISHOP, New York: There is a certain point in the *x*-ray examination of these cases of aortitis that one should always keep in mind, the dilatation of the aorta which is dependent on increased blood-pressure. I have spent two summers in Nauheim working with one of the best *x*-ray men in the world who makes a specialty of *x*-ray work on the chest. We found that this knuckle or dilatation of the aorta to the left of the clavicle showed up in those patients who had a high blood-pressure. All patients are *x*-rayed and in many instances aneurysms are present. There is no doubt but that with this increase in the blood-pressure, there must be an increase in the distention of the aorta. This condition is not very difficult to diagnose and, even when the Wassermann reaction has not been sought for, under treatment these patients improve greatly.

DR. ARTHUR D. DUNN, Omaha, Neb.: One point should be emphasized more; practically all cases of angina vera in men under 50 are due to an involvement of the coronary arteries by syphilitic disease. In one case of syphilitic aortitis I was misled by a negative Wassermann reaction; the case came to autopsy and spirochetes were found in the aorta. Syphilitic involvement of the myocardium with or without aortitis should be emphasized. I have now under observation three cases of myocarditis. These patients were under control and in the hospital for a considerable length of time (one to two months), so that improvement due to rest, etc., could be excluded. The patients, all under 50 years of age, denied syphilis, and there was nothing to show that syphilis had ever existed. The Wassermann reaction was positive. In two salvarsan was given with marked improvement in the condition; in the other case there was no improvement. Tabes and paresis are often associated with aortic insufficiency and aortic syphilis. The attention of surgeons should be called to this well-known fact. I have in mind a patient operated on in Philadelphia, who came to me a few months later for cardiac decompensation due to a syphilitic aortitis and valvulitis. He had been operated on for gastric crises.

DR. WALTER L. BIERRING, Des Moines, Iowa: Since *x*-ray pictures are taken of patients in the upright position at a distance of from 3 to 6 feet, the heart form and connecting large vessels are brought out more distinctly. In this position, the form of the heart is elongated and the curves produced by the large vessels are also outlined more definitely. In observing these pictures I have often been confused by the sharp curve which the aorta makes as it turns upward and backward forming a distinct bulging very suggestive of a dilated aorta or a beginning aneurysm. In connection with this work a large number of healthy young men, resident physicians and others, were examined. In every instance the blood-pressure was normal, and a previous luetic infection was definitely excluded. While I recognize that the *x*-ray is very helpful in recognizing early changes in the aorta, I feel that great care should be exercised in properly interpreting the normal curves that are seen in the *x*-ray picture.

DR. RICHARD DEXTER, Cleveland: I believe that the *x*-ray should always be used in the early diagnosis of aortitis. Among the early signs of this disease are shortness of breath on the slightest exertion, with pain, referred to the upper chest. There is also a sense of constriction high up in the chest. The use of *x*-rays in these conditions is of great help and will often bring out the condition when the signs fail us. I agree that the bulging to the left is often found in normal cases. When I first became interested in this class of cases, I found many with but a moderate increase of dulness over the aorta, but I found that this occurred in almost every case. I think that all roentgenologists recognize the possibilities of error in *x*-ray work. A combination of signs and of symptoms, together with the use of *x*-rays, seem to be the most effective in making a diagnosis of this condition. The Wassermann reaction is an indication for intensive treatment, and it also has its diagnostic importance. When positive it shows that we have to deal with a luetic aortitis.

FISCHER'S THEORY OF EDEMA AND NEPHRITIS

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In his work on edema, Martin H. Fischer[1] has proved beyond a doubt what had also been found to be true by Loeb[2] and by W. Ostwald,[3] that fibrin and gelatin plates and the dead muscle of frogs absorb water to a greater degree in acid than in neutral solutions. From these experiments he goes on to argue most plausibly that edema in the living animal body is caused by an excessive accumulation of acid. He completely fails to prove that such is the case, and leaves unanswered the all-important question, Can acid accumulation account for the edema of living muscle?

It can easily be shown that acid content does not account for the swelling of muscle in Fischer's "artificial edemas." These edemas are produced by ligating the leg of a frog just above the knee, severing above the ligature and keeping the preparation in distilled water. It was found that these preparations increased in weight. Without attempting to obtain any direct evidence on the point, Fischer lets us assume that this increase in weight is due to the accumulation of acids within the amputated leg. I repeated the experiment and kept the preparations in tap-water for twelve hours. The result in each case was an increase in weight of 20 per cent., as shown in the accompanying table.

EXPERIMENT SHOWING EDEMA BY ABSORPTION OF WATER

Preparation.	Weight. At Beginning. Gm.	Weight. After 12 Hours. Gm.	Increase in Weight. Per Cent.
No. 1.....	3.750	4.540	20
No. 2.....	3.805	4.630	20

At the end of the experiment the preparations were opened and the muscles found to be irritable. When the lymph and muscles were tested with acid fuchsin and neutral red, they were found to be neutral. Clearly, then, acid accumulation does not take place in the artificial edemas which Fischer has devised to prove his hypothesis.

Fischer records a great many experiments on the swelling of the gastrocnemii of frogs in various solutions. The muscles are almost always killed by placing them in distilled water. It has been clearly pointed out by R. Beutner,[4] and I have shown[5] that if instead, the muscles be put into salt solutions, preferably isotonic, to which acid has been added, such muscles first act like osmotic systems and only later like purely colloidal ones.

In a series of such experiments it was found that only a high degree of acidity, 0.009-normal, will cause any significant swelling of the muscle. It is well known that the death of a tissue follows rapidly on its being given an acid reaction. On the other hand, Kantor and Gies[6] have shown that free acid must be present in a solution in which fibrin threads are suspended in order that such threads may swell.

Von Fürth[7] correctly calls attention to the fact that Fischer's colloidal theory of edema seeks to explain only the imbibition of water by the cells, while as a matter of fact the greater part of the fluid of an edema is outside the cells, lying between the tissues.

Fischer's later work on "Nephritis"[8] consists of an application of the experiments and arguments used in connection with edema to the more special problems of nephritis, and so criticism of much the same character as those given on the earlier work apply here. If one can, for a moment, forget the skilful and convincing style in which the book is written, and set before oneself the meager evidence which Fischer uses for his theory, the lack of a few fundamental facts at once becomes apparent.

Briefly stated, the reasons for his theory are three:

1. Fibrin dissolves in acid or in alkaline, but not in neutral solutions, and this, to Fischer's mind, is what takes place in the cells of the nephritic kidney, thus giving rise to albumin in the urine. In order that the analogy may hold, then the secreting cells of the kidney must be acid in reaction.

2. It is shown by means of tables quoted from Höber that urine from nephritides is more acid than that of normal persons. Farther on in the book Fischer states (p. 184): "The presence of some abnormal acid in the urine does not yet prove that the actual acidity of the body as a whole has arisen." It is hard to see then how the abnormal acidity of the urine could be used as an argument for the acidity of any part of the body as, for example, the kidneys.

3. Artificial albuminuria may be produced in rabbits by the injection of sufficient quantities of tenth-normal hydrochloric acid.

It is curious to note that Fischer goes to great pains to demonstrate that normal kidney tissue is neutral in reaction to acid fuchsin and sodium indigo sulphonate. He then records a large number of experiments in which albuminuria was induced in rabbits by the injection of tenth-normal hydrochloric acid, made isotonic with sodium chlorid solution, but scrupulously avoids telling whether the kidneys in such cases were neutral or acid in reaction. If sections of kidney in a case of artificial nephritis should test acid to indicators we should have good reason for trusting Fischer's theory. In order to satisfy myself on that point I injected a 2,200-gm. rabbit with 175 c.c. tenth-normal hydrochloric acid, made isotonic with serum by the addition of 2.5 mol sodium chlorid. The temperature of the solution was from 35 to 37 C. The injection occupied one hour. One-half hour after the injection had ceased the rabbit was catheterized and the urine found to give an abundant precipitate with phosphotungstic acid. The rabbit was killed by a blow on the head, the kidneys at once removed and sections of them tested for acid with neutral red and acid fuchsin. The result in all cases indicated neutrality of the secreting cells. Occasionally slight staining took place in the lining of the collecting tubes, just as in normal kidney.

Here, then, is a case of albuminuria, induced by acid injection, in which the kidney tissue retains its neutral reaction.

If more be needed to indicate the insecure basis on which the acid theory of nephritis rests I might refer

1. Fischer, M. H.: Edema: A Study of the Physiology and the Pathology of Water Absorption by the Living Organism, New York, John Wiley & Sons, 1910.
2. Loeb, J.: Arch. f. d. ges. Physiol. (Pflüger's), lxix, 1; lxxi, 457; lxxv, 303.
3. Ostwald, W.: Arch. f. d. ges. Physiol., (Pflüger's), cviii, 563; iii, 581.
4. Beutner, R.: Unterschiedung kolloidaler und osmotischer Schwellung beim Muskel, Biochem. Ztschr., xxxix, 280.
5. Moore, A. R.: Univ. of Cal. Pub. Physiol., iv, 111.
6. Kantor and Gies: Jour. Biol. Chem., ix, 1911.
7. von Fürth, O.: Probleme der physiologischen und pathologischen Chemie, Leipsic, 1912, i, 256.
8. Fischer, M. H.: Nephritis: An Experimental and Critical Study of Its Nature, Cause and the Principles of Its Relief, New York, John Wiley & Sons, 1912.

to the fact that Fischer[9] himself has shown that injections of solutions of the three sodium salts, sodium chlorid, sodium iodid and sodium bromid, frequently, though not always, cause albuminuria in rabbits. Burnett[10] found that when sea water is made isotonic with blood-serum and injected into rabbits it gives rise to albuminuria, and yet Fischer advocates to physicians the use of injections of salt solutions in cases of nephritis.

It would seem to be wisdom on the part of those engaged in the practice of medicine to view with extreme caution the use of any theory in practice which is founded mainly on argument based on a minimum of experimental evidence. It has been shown how slender is the experimental basis for Fischer's theory of edema and nephritis, and I should say that no matter how skilfully that writer has put his argument, his theory at present has no place in the practice of medicine.

THE HOSPITAL'S NEED OF A DENTAL STAFF*

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The last decade has produced many writings calling attention to the part the oral cavity can play in health and disease; not alone of the health and disease of the mouth, but of the entire body as well; and this has changed the general opinion held in the past—that the mouth played only a small and insignificant part in the pathology of the human system.

Now, while these ten years have been productive of great changes for the betterment of knowledge and treatment, yet, to me, the one great institution which one would expect to do the greatest good for humanity has not produced results commensurate with its ability and opportunity. For about twenty years I have been associated with the service extended by a dental practitioner to several average hospitals, and during that time experience and observation have brought forth cogitations and deductions.

On the front page of the *Dental Cosmos* is observed the quotation, "Observe, compare, reflect, record." I will here apply this quotation to my hospital experience and give a few plain thoughts which, while perhaps not scientific, yet come from the school of experience. If the experience is a mistaken one, it will have at least one virtue—it will be an honest one not borrowed from the books.

A patient enters the average hospital for one of a score of serious operations, to be followed by several weeks, if not months, of slow recovery. Extreme care is employed to prevent septic infection—save the foul condition of the oral cavity. Experience and science of the oral hygienic movement have demonstrated the need of intelligent dental service before many of these operations. The use of the scaler, tooth brush, tongue scraper, swab, and compressed antiseptic spray is needed in many such cases; but perhaps no part of the body is more neglected than the oral cavity, and in many instances no part of the body manifests more strikingly the result of this neglect. In my opinion the hospital has no one greater need of the dental staff than in the proper preparation of the oral cavity before and after operations.

In fractures of the mandible dentists have the ability to make a diagnosis and to correct the fracture with dental appliances of a cleanly, comfortable and sure method. The day of the old-fashioned manner of wiring or of bandaging these fractures should be a thing of the past. I would place the ability of dentistry to handle fractures as the second great need of the hospital for a dental staff.

Dentistry is part of the healing art and hospitals need it in diagnosing disease of dental origin. The twentieth century has demonstrated there are serious pathologic conditions arising from infected glands, interstitial gingivitis, non-erupted teeth, dental cysts, dental abscess, caries and necrosis. There is no greater list of troubles to ordinary humanity than the one headed neuralgia. A very large number of so-called facial neuralgias are of dental origin. The *x*-ray has been a boon to humanity and medicine, yet the one great need in the majority of cases is some one to read the picture, and I believe that dentistry can tellingly read some of dental origin. We hear much of faulty metabolism, but how about the cases caused from lack of masticating power, poor occlusion and infection from diseased and foul conditions of the oral cavity?

Surgery has done much for cleft palate, but there are numerous cases which surgery cannot help, and also those in which surgery has been tried and found wanting. The hospital has yet the need of the velum and obturator. There are phases of specific disease in which the oral cavity is more liable to show symptoms to the dentist than to the regular medical practitioner. In my opinion there are many other pathologic conditions of the human body in which advanced, scientific dentistry can do much to assist the healing art, but space forbids enumerating them.

To sum up in a few words, cannot the intelligent and scientific dentist, practicing true stomatology, assist general medicine and surgery in ways needed? In fact, has not the need of the hospital for a dental staff, of true professional ability, been apparent to hundreds of intelligent, observing and scientific lay and medical people for years?

ABSTRACT OF DISCUSSION

DR. G. V. I. BROWN, Milwaukee, Wis.: I believe no one questions that the dental staff might be of great usefulness in the hospital. There would be no question as to the value of proper treatment of the mouth in preparation for surgical operation, if this were practicable in all cases, but while it is applicable for some operations, when the patient's condition is such as to make it possible to take the time, and to perform the procedures necessary to cleansing the mouth, the vast majority of patients are in such condition that local treatment of this nature would be out of the question.

DR. C. K. TETER, Cleveland: There is no question about the need of the services of the dentist on the staff of different hospitals. I am officially connected with two in Cleveland, not as a dentist, however, but as an anesthetist, but the rest of the staff take advantage of the fact that I am a dentist in consulting me in regard to their surgical procedures or treatments of diseased conditions of the mouth in which the teeth enter into consideration. I do not think there should be any trouble in getting positions on the staffs of the different hospitals if the question is taken up in the proper manner. It will be brought about by personal effort. A few weeks ago I was in Newark, N. J., where I gave a clinic in one of the largest hospitals. I was very glad to find that three hospitals in Newark had dentists on the staff. At Bridgeport, Conn., only a short time ago I also found a dentist on the staff of the hos-

9. Fischer: Univ. of Cal. Pub. Physiol., i, 113.
10. Burnett: Jour. Biol. Chem., iv, 57.

* Read in the Section on Stomatology of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

pital there. My advice would be to the dentists as they go back home to take up this matter with the proper men in the hospitals, and I think they will meet with success in getting appointments on the staffs.

DR. W. C. FISHER, New York: About the nearest solution I could offer would be to have an examination held immediately after graduation, and appoint two or three of these men as interns in the hospitals, at a small recompense, to care for their actual needs, and a little extra, and let them serve the course the same as the medical men. Have the term, for instance, two years and allow the men to serve one year with the privilege of serving the second year if they so desire. The care of the mouths of people who are to undergo operations is frequently out of the question to a great extent because of the condition of the patients. Therein, however, comes the point of having the nurse keep the mouth in such a condition until the patient improves beyond the condition of helplessness. To have the nurses properly trained to care for the mouths during that period would be at least a means of helping these people over that period in which the ravages of decay are so rampant. I do think, however, that if a corps of dental interns was established, it would meet with a great number of applicants from among the men just graduating from the dental colleges.

DR. C. F. LYNCH, Springfield, Mass.: The medical profession, for the past few years, has wakened up to the fact of the necessity of the care of the mouth before operation. Moynihan of Leeds, England, in his work on abdominal operations makes that important point in connection with his stomach operations. He saw the necessity of protecting the operation from above and the following, at a time previous to the operation, of such technic as would afford protection against the filthy condition of the mouth. Root infection is a very important matter. Physicians see a great many people suffering from facial neuralgia due to infected teeth and all that many dentists will do in these cases is to paint the gums with iodin. There is a cardinal rule in surgery that pus must be evacuated and it cannot be evacuated by painting the gum with iodin. Pus must go somewhere; it will not go through a crown or cap on a tooth, or an impervious filling, but it goes out of the side of the jaw or into the circulation. I have found it difficult to persuade dentists to take off a cap or take out a filling to obtain drainage. I believe that they should not hesitate to remove the filling and evacuate the pus, just as a physician would open up any suppurative sinus, the drainage of which was blocked.

DR. A. J. FLANAGAN, Springfield, Mass.: After an address I gave in the Institute of Stomatology of New York City in 1902, dentists were appointed in one or more of the hospitals. Current dental literature afterward took up the paper on two occasions and editorials were written on the subject. In all these years, however, there has been but slight advancement. Dr. Brown spoke of the vast majority of patients that could not have proper oral preparation because of the lack of time. Of course, in all things we must use judgment, but in all these hospitals in the United States, just think of the large proportion of cases that could properly be attended to. There must be in every large city one or more dentists of true professional ability. There must be in the hospital at least one dentist who knows proper pathology and therapeutics. I know dentists exist with correct knowledge of oral conditions who can render needed assistance to the healing art and humanity if general medicine and hospital management wish their cooperation and service. The hospitals have nurses who receive lectures; what is to prevent intelligent men from giving one lecture to the nurses during the course on the care of the mouth in health and disease? The plan mentioned by Dr. Fisher of having interns is a good one. Through popular journals and the newspapers, people are being educated in the knowledge of pathology, and dentistry is beginning to wake up because the press has partly forced them through the knowledge imparted to the public. If dentistry—as a part of the healing art—can render service to humanity along the lines of hospital service why not give the opportunity? If dentistry is not able to meet the demands let the world know it.

CLEFT PALATES

WITH SPECIAL REFERENCE TO THE CLOSING OF A SURGICAL CLEFT BY THE USE OF A DENTAL APPLIANCE *

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One of the most distressing deformities to which the human frame is liable is found in the defective condition known to the dentist and surgeon as cleft palate. The unfortunate sufferer is compelled, in a great measure, to be an alien among his fellows and an object of compassion to the considerate; and is often made painfully conscious of notice by the heartless crowd. Were he gifted with the power and eloquence of a Demosthenes he could make little more use of his endowments than if he were a mute.

In times past, one so afflicted was doomed to go through life suffering from his deformity with no hope of relief, but thanks to the advancement of both surgical and mechanical means this imperfection may at least be remedied and often cured.

There are two distinct classes of palatine defects: acquired and congenital.

The first includes all loss of tissue in either hard or soft palates whether the result of accident or disease. These defects are not uniform in locality nor in extent, consisting sometimes of simple perforations and at others involving the destruction of the velum, a considerable portion of the palate, the vomer and turbinated bones and the loss of a greater or less number of teeth.

The second class includes all malformations, from the simple bifurcation of the uvula to an opening through the velum, palatine and maxillary bones and a fissure of the lip, thus uniting the oral cavity with the nasal passages throughout.

Congenital clefts are similar in character but are not uniform in extent. The uvula and velum are always divided through the median line but as the fissure progresses toward the interior portion of the oral cavity it may be deflected to one side of the vomer, and following one nasal passage may divide the lip. When this is the condition, the vomer is firmly attached to the palatal process on but one side. In other cases, the deformity follows the median line, separating the vomer from the palatal process and involving both nasal passages, ending in a double fissure of the lip.

Unless the cleft is complete (involving the lip) the deformity is not visible as the facial contour is unimpaired but is immediately detected when speech is attempted, distinct utterance being impossible.

Mastication and deglutition are often so much interfered with as to be performed with great difficulty.

These effects are always in proportion to the extent of the separation or the deficiency of the parts. The simple act of triturating the food may not be materially impaired by the absence of a portion — however extensive — of the palatal organs, unless the natural relations of the teeth of the maxilla and mandible are disturbed and do not occlude properly. Still, the process is more or less interfered with, as substances taken into the mouth cannot be so readily managed as when the parts are in their natural state; the food is liable to escape from the control of the tongue and pass into the cavity of the nose.

* Read in the Section on Stomatology of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

Imperfection of speech always results from an opening in the palate, giving a nasal twang to the voice and rendering the formation of certain sounds impossible.

Deglutition is not materially interfered with in an ordinary case of congenital deformity; the patient having never known any other method of swallowing is not conscious of any difficulty. Acquired clefts, occurring as they most frequently do in adult life, cause, in this respect, great inconvenience.

The remedy for these evils must be the closing of the abnormal passage by some means which will restore their functions to the deformed organs.

In perforations of the hard palate, unless very extensive, the method is quite simple. In the loss of the soft palate by disease the remedy is more difficult, and in extensive congenital deformities still more complicated measures must be resorted to. The surgeon resorts to staphylorrhapy, an operation which has been successful in many instances, although there are numerous cases in which more benefit would be derived from a mechanical appliance than from a surgical velum.

It has been said that "any unnatural opening between the oral and nasal cavities which will permit the full passage of the breath will impair articulation, while any appliance which will close such passage and can be worn without inconvenience will restore articulation." This is true in the case of an acquired cleft but not entirely so when the deformity is congenital. In the former case, the patient has known the use to the lost organs and can readily accustom himself to the appliance replacing that loss, while in the latter instance, the patient never having known its use it is unreasonable to suppose that he could articulate properly without careful and painstaking practice. Dr. Kingsly says: "The possession of an apparatus of whatever nature, however cunningly conceived and skilfully adjusted to the needs of the patient, will not transform him immediately into a perfectly speaking person, any more than would the possession of a violin transform the possessor into a master of that instrument."

Having classified the palatal defects as acquired and congenital, it may be well also to classify the appliances used for their remedy, not that a certain kind of appliance is always indicated for all congenital deformities and another for all acquired clefts, for such is not the case, but each cleft, whether it be of the first or the second classification, is a study in itself and demands special thought and skill to bring the operation to a successful conclusion. The term obturator is used to designate all instruments to stop or cover all openings in the hard or soft palate which have a well-defined border or outline. The term artificial velum is applied to a mechanical contrivance which consists of an elastic, movable valve which is under the control of the surrounding muscles and is capable of opening and closing the posterior nares at will, and which is applicable to cases of congenital cleft palate and also in certain cases in which the soft palate has been destroyed by ulceration.

Obturators were formerly made of either gold or silver plate and many very ingenious instruments were the result of such efforts; but of later years vulcanite has superseded the metals, being so much more easily formed into the various shapes, especially when the opening is of irregular form.

The velum is, of necessity, made of soft vulcanite, as it is yielding to the movements of the surrounding muscles and is not in the least irritating to the tissues.

The success of these appliances depends largely on the accuracy of the models since it is on these that the parts are molded. It being essential that the outline of the border of the entire fissure be represented in the model as these parts are in repose, it becomes necessary to take the impression in plaster-of-Paris, as it is the only material adapted for such work. Various methods of securing such impressions are followed but it is unnecessary here to give a detailed description of any one of them.

A better understanding of the benefits rendered the patient by the prosthetist after a surgical operation resulting in a cleft of the palate, may be given by citing a case of recent date:

Patient.—Mr. S., aged 38, had undergone an operation for the cure of necrosis of the superior maxillary. The major portion of the alveolar ridge and the palatal process were involved, thus necessitating the removal of the superior teeth, together with the portion of the alveolar process extending from the first molar, superior left, to the position of the third molar on the right, and from the region of the incisors upward to and including the anterior nasal spine.

Condition on Examination.—On first examination the conditions were found to be most unpromising. There was an irregular opening extending from the region once occupied by the second bicuspid on the left to that of the second molar on the right. This opening varied in width from one-fourth to three-fourths of an inch, the mucous membrane having partly closed the cleft. On pressure it was found that a greater portion of the roof of the mouth would yield readily, thus affording no foundation on which to rest a denture save directly over the tuberosities and a short distance forward of that point. The superior lip having no support from beneath, hung like a curtain, and could readily be pressed backward and upward to an appreciable extent. His articulation was such that it was with great difficulty that he could be understood; he had the characteristic nasal twang and was unable to produce certain sounds. His ability to masticate his food was entirely lost and deglutition was greatly interfered with.

Method of Repair.—The teeth having been lost and a greater portion of the osseous tissue removed, there appeared to be nothing left on which to rest or attach the appliance for the closure of the cleft, but a digital examination of the opening into the nasal cavity disclosed a heavy band of cicatricial tissue extending transversely at the base of the nose, and it was to this band that the finished appliance was attached. Having secured a perfect impression in plaster-of-Paris of the parts least movable, a base plate of vulcanite was constructed, to which wax was added, until the facial contour was restored and the cleft entirely closed. The addition in wax was reproduced in vulcanite and the appliance again fitted to the mouth, when the position of the lower teeth relative to the upper jaw was determined and the projection or hook on the rim of the plate was located. Attaching the artificial teeth to the plate and reproducing, in vulcanite, the attachment to engage the scar tissue surrounding the cleft was readily accomplished. To insert the appliance it is necessary to grasp the upper lip and draw it forward, thus opening the cleft to its fullest extent, when the obturator with its hook-like attachment readily passes through or into the cleft, and on releasing the lip the cicatricial band engages that part of the appliance intended for its reception.

Result.—When the finished appliance was placed in position, the patient's speech was immediately restored, deglutition was not interfered with in the least, and what gave him great pleasure was the fact that he could again enjoy his cigar.

In conclusion let it be understood that success in the treatment of all cases of cleft palate depends largely on the thought given it, the selection of the proper appliance for the case, and the care and skill with which it is constructed.

Patients suffering with a congenital defect usually have difficulty in adapting themselves to the changed conditions but with proper instruction and perseverance

they soon unlearn their former way of speaking and in many instances have become so proficient that their deformity was not suspected.

ABSTRACT OF DISCUSSION

DR. VIDA A. LATHAM, Chicago: We all know that in cleft palates in which we have a high arch and a good vault, we have good speech. We also knew that where the reverse conditions exist nobody can understand the speech. We do not know the reason. I have seen cases in which the speech was unintelligible, and yet the examination of the mouth never led me to think that there would be any difficulty. It is not due to the condition in the throat, and not always to the condition of the soft palate. In many cases we are never able to get good speech even with artificial appliances, and when we consider that this is a rigid appliance and has so little attachment, it is marvelous that the speech is good.

DR. M. I. SCHAMBERG, New York: These conditions of acquired cleft palate call for greater ingenuity than congenital cleft palate; in fact, congenital cleft palate, at present, is susceptible of treatment by surgical methods, and according to my views is indicated in a large proportion of cases which were formerly considered irreparable, but in these acquired cases the ingenuity of the dentist is severely tested. In connection with these cases it is always essential to endeavor to study the means by which the muscles can be brought into play to counteract the absence of suction or other means of retention. The manner in which the front portion of this piece slips backward so as to enable the patient to acquire control of the piece by means of the muscles and the lips is certainly a beautiful illustration of what can be done in a prosthetic way.

DR. H. S. HASLETT, Pittsburgh: When first examining the mouth I was very much discouraged. I thought there was nothing to which I could attach anything, until I discovered this band of cicatricial tissue, and to that I pinned my hope as well as hung my appliance. I took an impression in modeling compound first. I then made a tray over the model made from that impression, with the hope that I could get an impression from which I could make a complete model. I failed in that, however. If the appliance is taken out, the face falls in, and I could not get any impression material which had force enough to force the tissues out and hold them in the proper position. I then decided to take an impression of what was left of the hard palate, and I felt that that was all that I could do. To that I attached a thin layer of rubber, and vulcanized the base plate, as we do with two vulcanizations when we want to line a plate with pink rubber, and to that base, which showed the shape of the hard palate, or what remained of it and the inner border of the cleft, I built wax until I obtained the proper contour of the face. Then I had an edge for the plate to rest against until I got it to the proper position. After that was built out it was little or no trouble to locate just how I wanted the appliance, to attach the teeth, and finish the work. In work of this kind it is much easier to get happy results with acquired than with congenital cases. I have had a great many congenital cases and it is always with great difficulty that the patient learns to use the appliance. Some become discouraged, while others persevere, but those patients with acquired cleft will do as well as ever as soon as the appliance is placed in the mouth.

Fees and Ability.—If a practitioner, for any reason whatsoever, sees fit to reduce his fees below the minimum, for one or for all of his patients, that is his own personal business, and nobody has any right to interfere. There is no medical trust, no medical union, no boycott. Time will teach him the lesson he needs without our concern. He will learn one day that the public, after all, gauges a man's ability by his self esteem. Look about in your own community and see whether this is not true. The good men command the best fees; and one reason they are good men is that they have demanded the best fees. *Idemque* the cheap man.—*Delaware State Med. Jour.*

ACUTE OSTEOMYELITIS OF THE JAW*

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Osteomyelitis is an inflammation of the marrow and adjacent osseous tissue of a bone. Usually the inflammatory process is widespread, tending to involve the entire marrow cavity, the process, as a rule, being very destructive with extensive secondary necrosis of the bone. Of the jaws, the upper jaw, on account of its protected position, the peculiarities of its vascular supply and the absence of any true marrow cavity is so free from this disease, that osteomyelitis of the lower jaw only will be considered. While the lower jaw has no distinct marrow cavity as compared with one of the long bones, it has a central nutrient canal containing the inferior dental nerves and vessels, adjacent cancellous tissue, which largely disappears near the symphysis, all enclosed by firm, dense walls of compact bone surmounted by soft cancellous bone forming the alveolar portion. An inflammatory process within the body of the lower jaw, while it does not spread through a mass of soft marrow, quickly produces serious involvement of the inferior dental vessels and nerves. There follow, therefore, a rapid death of the interior of the jaw involving half or even the entire body of the bone and an interference with the circulation and innervation of the teeth followed by their progressive loosening, and frequently complete separation from the softened or disintegrated alveolus. Osteomyelitis of the jaw is, therefore, to be differentiated from the simpler infections and forms of necrosis by:

(*a*) The extensive involvement of the contents of the inferior dental canal.

(*b*) The tendency for the widespread secondary destruction of bone.

(*c*) The damage to many or all of the lower teeth.

Alveolar abscess, periostitis and many forms of necrosis produce a relatively limited involvement of the mandible.

From a clinical standpoint, osteomyelitis also differs from other infections of the jaw by the fact that it develops within the bone, and therefore local swelling is not a primary feature; from the fact that many teeth are involved and that their involvement is secondary; by a tendency to widespread bone necrosis, and especially by the very early and often violent general systemic disturbance from the absorption of septic material retained under tension within the body of the jaw.

ETIOLOGY

The jaw is exposed to infection by reason of its exposed position, its many duties, the proximity of the cavity of the mouth, and by reason of the contained teeth. Apart from traumatic injury, it would seem probable that bacteria would reach the interior of the bone chiefly from the mouth, especially through infected dental canals. The possibility that bacteria may be carried by the circulation and be deposited from within, as so frequently occurs in the long bones of the body, is also to be considered, especially in the forms of osteomyelitis developing without evident cause in young persons. The well-recognized types of osteomyelitis, of traumatic origin, those following infectious diseases such as typhoid and typhus fevers, or the exanthematous fevers as small-pox, scarlet fever and measles, or such

* Read in the Section on Stomatology of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

severe constitutional disorders as scurvy are well recognized and will be given little consideration. Poisons leading to inflammation or necrosis of the jaws such as phosphorus, the dust from mother of pearl, as well as the more chronic inflammatory and degenerative lesions occurring in association with locomotor ataxia, syphilis, tuberculosis and actinomycosis, I shall not discuss at this time.

The form to which I particularly desire to direct attention is the developmental type which occurs between the twelfth and sixteenth years. It is not a common condition and probably is seen more frequently by the physician than by the dentist. Usually a correct diagnosis is not made until widespread destruction of the mandible has occurred. For this reason the condition deserves especial attention. It may be compared to the osteomyelitis occurring in children and involving the long bones of the extremities. In the latter infections, the exciting cause is often trivial; the child may have been exposed to cold and wet, perhaps has waded in cold water, or has fallen and received a slight bruise on the shin or other part and there rapidly follow signs of a severe infection, chill, fever, delirium and widespread destruction of bone. The infectious organism, usually the staphylococcus or streptococcus, has been circulating in the blood and has localized in the bone as a result of the slightly lowered local resistance. So it is with the mandible; the teeth may be crowded or may have erupted irregularly; possibly a corrective appliance has been fastened to the teeth and as a result, the oral cavity contains a larger number of bacteria than usual; or an extraction may have been done, a large cavity may be present or the child may have received a slight blow over the jaw. Again, there is no history of any of these conditions, and the disease develops without apparent cause and it is probable that infection originated as in the forms of osteomyelitis of the long bones, from the lodgment of bacteria carried in the circulating blood.

PATHOLOGY

The pathology of acute osteomyelitis of the lower jaw is that of a rapidly spreading infection along the inferior dental canal. Whether the bacteria invade the area from the blood-stream, through the root canal, the cavity left after the extraction of a tooth, or the opening from a fracture of the jaw, the danger lies in the involvement of the inferior dental vessels. The inflammatory exudate of serum and leukocytes soon fills the canal and compresses the nutrient blood-vessels; and from the pressure and infection, thrombi form in the vessels, the circulation is arrested and rapid degenerative and inflammatory changes occur in the bone. The alveolar process softens, the teeth loosen, and if the exudate within the canal becomes purulent it burrows along the roots of the teeth, finally escaping at the gum margin, or perforates the process, the pus collecting under the mucous membrane or skin, finally to discharge or evacuate. As the pus or exudate passes through the bone, it lifts the overlying periosteum, and as this is stripped from the bone, the osseous circulation is cut off from without as well as from within; thus it follows that a rapid and very widespread necrosis is usual. The inflammatory edema may spread to the floor of the mouth, to the epiglottis and larynx, thus seriously interfering with deglutition and respiration. Bacteria may enter the facial veins and be carried into the sinus of the skull, producing septic sinusitis or meningitis. The buccal layer of the process usually suffers more than the lingual.

SYMPTOMS

As with other forms of osteomyelitis, the early local symptoms are often relatively slight so that serious damage occurs before the condition is recognized. A child may complain of only slight discomfort in the jaw or of toothache, and in the early stages, as the process is confined within the bone, there is little edema or external swelling to indicate the deep lying mischief. Prolonged firm pressure over the body of the bone or on the teeth, may, however, elicit diffuse tenderness. Especially striking are the severe constitutional symptoms. Often there is an initial rigor or chill followed by a rapid pulse, high fever and at times delirium, entirely out of proportion to the local signs. This early disproportion of the local and constitutional symptoms is of great diagnostic import. Within from twenty-four to forty-eight hours the beginning loosening of the teeth and the increasing edema of the adjacent tissues indicate that the condition is much more serious than an ordinary toothache or alveolar abscess, while the increasing temperature and pulse-rate, and possibly delirium, show the serious septic absorption. As the bony process is perforated, the external swelling becomes evident, abscesses form or on pressure pus escapes from under the gum margins. The face assumes a puffy, pasty appearance, with the rapid development of a severe septic anemia. Complications to be feared are extensive or total necrosis of the mandible, severe sepsis which may be fatal, edema of the epiglottis or larynx causing suffocation, pyemia or secondary infection within the cranium. The teeth may be lost or seriously damaged.

DIAGNOSIS

The diagnosis may be made by the history, the severity of the early general symptoms, with relatively slight local symptoms, the pain on prolonged deep pressure over the body of the jaw, or on the teeth, the early widespread loosening of the teeth, and the general septic manifestations. With the secondary swelling of the adjacent soft tissues and the discharge of pus, the diagnosis is confirmed.

TREATMENT

The treatment should aim to prevent widespread necrosis and other complications. Most important is the early securing of a vent for the escape of inflammatory exudates from the bony canal. At the outset a small opening through the bone, by relieving tension, may entirely arrest the process, preventing the formation of pus, the interruption of the circulation and the widespread destruction of bone. The cleanest opening may be made from without through a minute incision carried along the under surface of the jaw to avoid conspicuous scarring. The incision is carried to the bone, which is drilled until a free vent is secured on the affected side for the inferior dental canal. In some cases, seen very early, external drainage may not be required, and the skin incision may be immediately closed with a reasonable hope that the inflammatory exudate will pass through the opening in the bone and will be neutralized and absorbed in the subcutaneous tissues. The bone may also be drilled from within the mouth remembering that the inferior dental canal lies about or just below the level of the mucous reflection from the mandible to the cheek. Unfortunately, this desirable prophylactic treatment may rarely be instituted. The parent or untrained attendant delays and the patient is first seen after suppuration has started. The teeth are loosened and there is some discharge of pus into the mouth. At this time,

it is important to try and preserve the teeth, to give a free vent to the discharges and to limit septic absorption on the part of the patient. If the process be a relatively limited one, drainage through openings made within the mouth may be sufficient.

Under nitrous oxid anesthesia, the gum and external plate of the alveolar process are to be freely separated from the buccal surfaces of the teeth by means of a small but strong knife for a distance as far as there is evidence of distinct bony destruction. In this way, a fairly free vent from the interior of the bone may be secured into the mouth. Frequently a number of the teeth will spontaneously separate from the alveolar process and will be found to hang merely by a bit of mucous membrane. As a rule, these teeth should not be detached or removed. If it is evident that the discharge of pus will be free and long continued or that a sequestrum of considerable size will be formed, it is best at once to make free external incisions from under the body of the jaw. In this way the bulk of the pus is permitted to escape promptly from the body instead of passing into the mouth, perhaps to be swallowed, or to contaminate the cavity. Drainage is to be facilitated as necessary by drilling or opening the bone and by introducing through the external incision strips of gauze which must not be tightly packed. Over all external wounds, a heavy moist dressing is to be constantly applied. I prefer gauze wet with 30 per cent. alcohol saturated with boracic acid, to which is added 5 per cent. of tincture of myrrh or compound tincture of lavender, all being covered by rubber tissue or oiled silk, and a thick layer of cotton. Drainage is also facilitated by keeping the patient propped up in bed, and hot-water bottles are applied over the dressing. If the external drainage is insufficient, and particularly if large sequestra form, the incisions must be sufficiently enlarged from time to time as is found necessary so that the patient does not become too cachectic from constant pus absorption. Mouth washes such as 0.5 per cent. permanganate of potash, liquor antisepticus alkalinus, or diluted alkalinized peroxid should frequently be employed. The internal administration of the time-honored tincture of the chlorid of iron in doses of from 10 to 15 minims every two or three hours is also of value from its local as well as its systemic action.

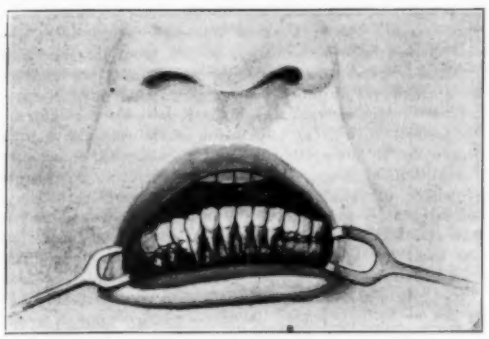

Fig. 1.—Developmental type of osteomyelitis occurring during the regulation of the upper teeth at the age of 13. The anterior part of the alveolar process has been entirely destroyed and the incisors hang by a delicate attachment to the lingual mucosa only. These teeth gradually became reimbedded in new-formed process. The separation of gum margins and escape of pus along the bicuspids is shown. All the teeth were involved but were retained.

Extensive edema of the floor of the mouth calls for free external incisions. Serious edema of the larynx or epiglottis may be treated by steam inhalation, epinephrin sprays and, if suffocation threatens, by scarification, intubation or tracheotomy.

The fate of the involved teeth is most interesting. During the destructive process within the bony canal, the nerves and vessels entering the apical foramina of the teeth are severed or destroyed. Later, however, as granulation tissue forms, the root, which may have been entirely free and exposed, becomes imbedded in the new granulation tissue and an opportunity is afforded for the proliferation of new blood-vessels in the pulp chambers of the loosened teeth. Granulation tissue also becomes attached to the surfaces of the teeth, and as the imbedding process proceeds, the root, which at first may have dangled from but a bit of adherent gum on its buccal surface, becomes covered in large part by granulation tissue and proliferating mucous membrane. Gradually the root is imbedded and the tooth becomes more firmly attached and with the regrowth of the alveolar process, acquires a solidity sufficient for even violent forms of mastication.

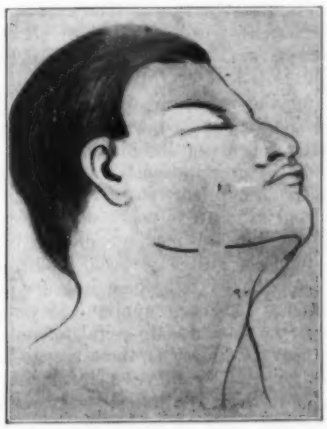

Fig. 2.—Lines of incision interrupted over the facial vessels for drainage in osteomyelitis. The surfaces of the bone and the floor of the mouth may be drained through these incisions. Should the resultant cicatrix be unsightly, it may later be excised and a careful plastic approximation done to render the scar inconspicuous.

It is surprising that evidence of putrefaction of the pulp is not universal, but I think that this is explained by the early free drainage and later by the possible growth of resorbing granulation tissue through the apical foramen. One recalls that celebrated experimenter of a century ago, John Hunter, who implanted a tooth in the comb of a cock and showed that a vascular penetration into the center of the tooth took place so that on injecting the comb, vessels within the tooth were likewise injected. Recent experiments with closely opposed cover-glasses placed within the abdominal cavity have demonstrated that granulation tissue has a remarkable power of invading narrow spaces. While our present knowledge is against the possibility of heterologous transplantations such as the transplantation of a human tooth into the tissues of the fowl, we need not doubt Hunter's observation that the cavity of the tooth became vascularized even though a true transplantation was not effected.

In the developmental type of osteomyelitis conditions are different. The tooth is not an alien substance and is never, as with a transplanted tooth, completely separated from its source of nutrient supply. With the reformation of the alveolar process and the imbedding of the loosened tooth, its vitality should approximate that of a tooth in which the root canal has been filled, rather than that of a replanted tooth. One should also consider the possibility of the reestablishment of an internal vascular supply to the tooth through the apical foramen. The absence of distinct discoloration and the preservation of translucency of some of these teeth have suggested to me the possibility in a revascularization or reformation of a vascular pulp, after the contents of the apical foramen have been completely divided. It would seem as if this were not beyond the bounds of possibility.

That some of these teeth will be treated by the tissues as foreign substances and have progressive absorption of their roots, while others will retain sufficient nutrient supply to retain, at least in part, a nutrient connection with the adjacent tissues would seem plausible. In the first instance, the teeth may be retained and be of service from a few months up to ten or twelve years. In the latter case, the retention of the tooth should approximate that of a tooth with a devitalized nerve or be from ten to twenty years. In any case, the probability of a considerable period of useful functionating is sufficient argument for the retention of all attached teeth, even though they retain but a slight mucous attachment after the destructive effects of the osteomyelitis. During the formation of the granulation tissue which progressively surrounds the separated roots, the mouth should, of course, be kept as clean as possible. Excessive granulation tissue in exposed portions of the bone or roots should be touched with 5 per cent. solution of nitrate of silver. As the teeth become imbedded, and as the mouth becomes cleaner, appliances very cautiously inserted may be desirable to regulate and to hold the teeth in proper position. If these are used, the serious deformities so often seen as a result of unnecessary extraction of teeth or too radical early removal of bone may be avoided. For extensive bony necrosis I would warn against the early removal of the sequestrum; if sufficient external drainage is maintained, a delay of months sufficient to enable the formation of new bone may be obtained so that when the sequestrum is finally removed a loss of the chin or the destruction of the contour of the body of the jaw may be prevented.

For the types of osteomyelitis occurring in middle and advanced life, such conservatism especially as concerns the teeth is, of course, less important. The danger of osteomyelitis and its grave prognosis in patients with serious systemic disease, particularly diabetes, should be mentioned. I have seen the removal of a loosened bit of bridge work in a middle-aged diabetic followed by rapidly spreading osteomyelitis of the lower jaw and death from diabetic coma. Dentists should more fully realize the importance of the urinary examination and the danger of operative work within the mouth in the presence of diabetes mellitus.

SUMMARY

Osteomyelitis in the young occurs in the lower jaw as well as in the long bones of the extremities, although at a somewhat later age.

Its early diagnosis is to be based on the early severe, systemic disturbance, and the widespread involvement of the bone.

The prophylactic treatment consists in drilling the bone under aseptic precautions.

After the formation of pus, free drainage should be employed which should be external if there be much necrosis.

No teeth should be extracted nor should teeth which merely hang from attached mucous membrane be removed.

Dead portions of bone should not be removed until entirely detached or until new bone capable of maintaining the contour of the jaw is formed.

Separated and loosened teeth with gum attachment usually become reimbedded and serviceable.

2033 Walnut Street.

ABSTRACT OF DISCUSSION

DR. M. I. SCHAMBERG, New York: If there is any distinction in the pathology of osteomyelitis and other suppurative conditions of the mandible there should be a distinction in their clinical significance and certainly in the surgical management of these cases. I have during the past fifteen years handled a large number of cases of suppuration about the jaws, some of which I style suppurative osteomyelitis that call for extensive surgical interference, and I have likewise handled many cases in which a simple puncture through the gum tissues and alveolus to give evacuation to the pus was all that was necessary, and I do not believe the patient was subject to any great danger as outlined by Dr. Babcock. I never make external openings in operations of this character unless I feel that I cannot reach the entire area efficiently through the mouth, and I do not believe that there is any great danger in entering these regions too soon. We sometimes are enabled to render an operation more simple by waiting until Nature has localized the sequestrum and made it possible for the surgeon to remove it with great ease. One of the reasons why young children are so susceptible is that the temporary teeth are in the transitional stage, where they are about to be thrown off, and where any slight blow is likely to interfere either with the root of this tooth or with the eruptiong permanent tooth germ, and the reason why the infections are so severe is that these tooth germs are so located that infection spreads rapidly through the mandible.

DR. C. E. FRAZIER, Kansas City Mo.: In osteomyelitis of the jaw or in long bones, the same method applies to one as to the other, and I am sure that much of the trouble that has been pointed out in treating osteomyelitis is in the method of treating it. Usually the curet is run in and the necrosed bone scraped out and overhanging portions of bone left around the opening. The bones are supplied with blood and nutrition through the haversian canals, and when the curet goes into a necrosed area and cuts it out, leaving a round hole in the bone, the blood-supply and the supply of nutrient material to the overhanging portions is destroyed, and the result is that after all the necrosed bone is thoroughly removed, then these overhanging portions break down and die. Then we have a larger area of osteomyelitis, which continues to increase. To overcome that, the first incision should be made large enough and should be cut out squarely or obliquely in order that there may be no overhanging particles of bone. Another practical point is the preservation as far as possible of as much as possible of the periosteum. If the periosteum is raised (leaving no overhanging places), and then laid down in proper position, it will facilitate the work and aid Nature in the redepositing of bone.

DR. VIDA A. LATHAM, Chicago: A case occurred in my practice, in which we had no history of an injury of any form; if I had had that one point, I could have saved the child. Nobody seemed to know of an injury. The only point in this connection that we could get was that the child had been sitting in the grass, and they thought it must be rheumatism. We must not forget that many cases of osteomyelitis are confused with rheumatic conditions. That child was suddenly taken ill on Saturday, and on Sunday morning I was called and found the child suffering with high temperature and

intense pain in the lower extremities and in the back of the neck. Examination under anesthesia was refused. On Monday morning a consultation was held with a number of leading physicians, but no agreement was reached. By Tuesday the condition was such that I was sure it was sepsis. The child had a temperature of 104, and petechiæ on the wrists but would not allow any handling of the right leg, in which we noticed a flexing. One consultant said that if we noticed an eruption on the forehead we could be sure of small-pox. The following morning there was a rash, and they said it was small-pox. Consent to operation was not obtained until 5 o'clock Saturday afternoon, and we operated on the femur and got a beautiful osteomyelitic condition and septicemia. Of couse, the child died Sunday morning, a week after the beginning of the condition. We found out afterward that the child had had a fall, hurting the knee.

Examination of the blood will help a little in these cases. We find in these conditions a most beautiful phagocytosis.

DR. G. V. I. BROWN, Milwaukee, Wis.: I wish to ask Dr. Babcock to explain how he accounts for and distinguishes conditions involving the superior maxillæ and mandible in which the symptoms as described present the characteristic swelling, the high temperature and the various other phenomena which accompany the infection, as when under ordinary circumstances one would reasonably expect to find pus after having openings, but in which there is no pus.

Only the other day I was called to see a patient in whose case openings such as have been described had been made and packing inserted. The only thing I could suggest was the removal of the packing by which an effort was being made to effect drainage. The woman was dying and there was no use in making her life unnecessarily miserable. They were giving streptococcus serum, and apparently all the well-recognized methods of treatment, but she had not the slightest evidence of pus on the wound surfaces. Such cases are more frequent than we realize. The other day, in a hospital with which I am connected, a child, 5 years of age, died of osteomyelitis affecting the lower jaw. The case would have been referred to me if the trouble had been recognized while the child was alive. Bacterial cultures were made in the hope of finding pneumococci, but without success until the vital force had become exhausted. As suggested by Dr. Schamberg, the question is really one of diagnosis.

DR. M. L. RHEIN, New York: Dr. Babcock, as a general surgeon, has fallen into an error of diagnosis. I question whether, where he makes a diagnosis, he realizes the difference in the tissues between osteomyelitis in one of the long bones, and osteomyelitis of the mandible which he had under discussion. The general surgeon frequently diagnoses a condition of osteomyelitis where osteomyelitis does not exist, and in a certain respect I think this is due to his lack of familiarity with the detailed pathology of the mandible proper. When we study the substance of the mandible, the spongy absorbing nature of the alveolar process, and how it ends in the true bone itself, we find that it has a density of structure far greater than that of any of the long bones. I am not satisfied with the etiology which he gives in regard to these so-called cases of osteomyelitis.

The pulps of the teeth play a much more important rôle than he has conceded in reference thereto, and we cannot safely leave the pulpal conditions to themselves. At the present time with the use of the radiograph, it is possible for us to localize very accurately the amount of tissue that is involved. If the diseased area involves to any extent the ends of the roots of the teeth, nothing should be permissible short of the thorough removal of the contents of the root canals of such teeth.

Premature operative interference so far as any osseous necrotic area is concerned is absolutely wrong, because it is impossible operatively to fix the line of demarcation. I am in accord with Dr. Babcock's opinion that premature operations of this kind interfere with the regenerative process, and that Nature will not respond in such a way as she does when we wait until sequestration has taken place. My own opinion is that osteomyelitis in the mandible is not of very common occurrence, as the hospital records would lead us to believe. In other words, I am convinced that many cases of what is nothing more or less than alveolar abscess are continually diagnosed in the hospitals as osteomyelitis, and treated, or rather mistreated, as such. I believe that every surgeon is liable to fall into such an error. The great number of doubtful osteomyelitis cases recorded illustrates the necessity of instilling more stomatology into the knowledge of general surgery.

DR. W. M. HARSHA, Chicago: The one point in Dr. Babcock's paper that I should like to emphasize is in reference to the diagnosis, which I think perhaps is most important. In the first place we have the usual febrile action, and a good deal of pain. Pain is a very prominent symptom, and at first reaches all over the face. I have seen a few patients of that sort in whom the pain is all over the jaw, analogous to what we have in acute abdominal conditions, such as appendicitis, in which the appendix is acutely inflamed and the pain is distributed all over the abdomen. Morphin is not to be given indiscriminately, but I find that a full dose of morphin abolishes the reflex pain, and limits the pain to the point more or less approximating the seat of the disease.

Another point that I wish to emphasize is that by pressure with the finger we can locate very exactly sometimes the location of the trouble, especially after the dose of morphin. This is true in the long bones, and in the mandible, not crudely, but going at it systematically, and we can often very definitely localize a small area, which gives us a clue to the location of the trouble. I believe that the same treatment prevails in this class of cases as in all cases of osteomyelitis, granted, of course, that we can approximate the location; I am thoroughly in accord with Dr. Babcock in advocating thorough incision; I would not hesitate to make an external incision to try to reach the point of infection. I know that the mouth is considered to be more or less immune from infection; that there is undoubtedly a degree of immunity, there that some other locations have not, but I would not hesitate to open from the outside in any case in which I deemed it necessary. I believe that the most important point in osteomyelitis is to make an early diagnosis, and then early operation.

DR. THOMAS L. GILMER, Chicago: I have seen many cases of inflammation of the jaws, but rarely, if ever, a genuine case of osteomyelitis of the mandible. Most cases known as osteomyelitis of the jaw are simple infections, originating in alveolar abscess. Suppurative osteitis (which strikes me as being a better term for this condition than osteomyelitis, since there is practically no bone-marrow, strictly speaking, in the lower jaw) may result from such abscesses. Most of the so-called cases of osteomyelitis which I have observed have originated in the alveolar process as the result of pulp infection. There are many other avenues of infection in the mouth besides the pulps of teeth. There are pus pockets about the roots of teeth due to so-called pyorrhea alveolaris; there are pockets between the gums and peridental membrane and the roots of teeth, due to improper contours. In these pockets food and bacteria collect. The fusiform bacillus and spirillum are found deep down in these pockets. This is an anaerobic organism. Some of these infections of the bone are due to this organism, and when due to it, we have a much more serious infection than when the condition is due to the staphylococcus. We have recently had in Chicago an epidemic of streptococcus infection of the pharynx, tonsils and jaws. Fusiform bacillus infections involving the jaws cause much swelling of a brawny nature, the infection and swelling passing quickly from one side of the jaw to the other, producing so-called Ludwig's angina, with edema of the glottis in the more serious cases, as indicated by Dr. Babcock. In some of these cases in which pus was suspected incisions were made, but no pus was found. It is believed by some that incisions should not be made unless the pus is palpable. Early incision for the purpose of relieving congestion I believe is indicated, but generally the incision should be external to prevent a mixed infection from mouth contamination. In a simple alveolar abscess, before the pus has burrowed through the process, it is good practice to drill through to the apical end of the root as indicated by Dr. Babcock, but if a fusiform

bacillus, streptococcus or pneumococcus infection of the jaw is present, the drilling may do harm. I do not believe it wise under such circumstances to make incisions of any kind in the mouth, as it seems to intensify the inflammation, probably due to the introduction of other organisms from the oral cavity. If we know that the infection is due to a dead pulp and that the pus is very limited in quantity we might evacuate it through the tooth, but often this is impracticable owing to the small caliber of the root-canals.

I believe that making an opening on the outside of the face is the only way we can get good drainage in the posterior portion of the mouth when there is great swelling. Good drainage is of prime importance. In these serious cases mouth incisions invite mixed infections, which may add to the gravity of the case. I agree with Dr. Schamberg that where an abscess can be reached from within the mouth and thorough drainage maintained, it is indicated, but there are many cases in which this cannot be done.

DR. M. J. SCHAMBERG, New York: There is scarcely a week in which I do not open externally several times for the drainage of neglected abscesses and in a few cases of osteomyelitis. Danger, however, may arise from Dr. Babcock's advocacy of the external incision for the purpose of puncture in the early stages of a condition which may or may not exist and in which there is so great a difficulty in making a diagnosis. I would not agree with any paper that suggested an external incision where there was even no likelihood of finding pus; definite means of diagnosis should be arrived at before such a method is generally advocated.

DR. W. W. BABCOCK, Philadelphia: The question has been very properly brought out by Dr. Schamberg as to the definition of osteomyelitis. If what I am talking about, and what you are talking about are different conditions, our conclusions cannot harmonize. Of course, in osteomyelitis we can include any inflammation involving the marrow cavity and adjacent bone. I direct attention to-day, not to a limited osteomyelitis but the form involving in many cases the nutrition of the entire lower jaw. I would consider only those cases in which the result is an involvement of all the nutrient vessels of the inferior dental canal. When this occurs, the first question is not whether we are to save the teeth or avoid scars, but rather whether we are to save the patient's life. As to prophylactic drainage, I do not think it makes a great difference whether we go from the inside or outside of the mouth, because an opening about the size of a gimlet-hole does not make much of a scar externally nor is there much danger of infection if we open from the inside. Later, however, free drainage may be extremely important, and it is advisable to open from the outside, because the tissues can be kept more aseptic, the drainage freer and the patient does not swallow the discharges. It is not a matter of a week or month in these cases, but usually a matter of a year or two years—and the tissues may discharge not pints but gallons of pus. In such patients it is paramount that this toxic material freely escape from the body. A curet may serve to spread and carry the infection.

The symptoms are not so clear as we would like to have them. First, there is little swelling or severe toothache. The swelling and loosening of the teeth, discharge of pus and necrosis are secondary symptoms.

The features are the early chill and fever The early local symptoms are relatively inconspicuous; the pain may not at first be referred to the jaw. The degree of tenderness is also peculiar. Early transient pressure may not cause pain, and it is only when we make firm pressure continuously over the body that the patient finally cries out. It is not like an alveolar abscess or exposed dentine which is sensitive on the slightest touch. In the early stages the sensitiveness is not on the outside of the bone because the inflammation has not reached the periosteum. Early edema indicates different conditions. If from a streptococcus or pneumococcus infection, suppuration may not occur.

As to the pulp in the involved teeth, does it remain or putrefy or what happens to it? That all pulp cavities should be evacuated and cleaned out is impracticable as the teeth are so loose that they may often be picked out with the finger. The apical foramen is often exposed in the mouth and the drainage from the pulp cavity does no harm. The strange point is, if the pulp dies, why do the teeth at times retain their color and translucency? Later the pulp may regain some sensitiveness. How that could occur in a dead tooth is hard to understand. Hunter's experiments showed that a tooth imbedded in the comb of the cock had new vessels projected into the pulp cavity. We must remember that the condition in osteomyelitis is different from the imbedding of a dead tooth that may last only ten years and be absorbed and thrown off. The teeth are never completely detached or absolutely separated from their source of nutrient supplies. They may become, I believe, under certain conditions, revitalized.

THE DUBOSCQ COLORIMETER AS A MEANS OF ESTIMATING HEMOLYSIS IN THE WASSERMANN REACTION *

ROBERT H. IVY, M.D.

PHILADELPHIA

Many methods have been devised to measure accurately the amount of hemolysis in the end-reaction of the Wassermann test. Notable among these is that of Boas, who makes a set of ten standard tubes, showing hemolysis ranging from 10 to 100 per cent., with which he compares the color of the tube at the end of a given test. So far as I know, however, the Duboscq colorimeter has not hitherto been put to this use.

For most practical purposes the naked eye is sufficiently accurate in reading the end-result of the reaction. By it we can readily determine that the reaction is strongly, medium or weakly positive, but there are cases in which hemolysis is almost complete, in which a more accurate reading is necessary to decide whether the reaction should be called weakly positive or negative, particularly those in which the effects of treatment are being gauged by the reaction. A difference of 5 per cent. of hemolysis can be detected by the Duboscq colorimeter. In cases in which the reaction is being used for diagnostic purposes only, 90 per cent. of hemolysis and over is regarded as negative, between 90 and 60 as weakly positive, between 60 and 30 medium positive and from 30 to 0 as strongly positive. In cases in which the effects of treatment are judged by the reaction, 90 to 95 per cent. of hemolysis should still be regarded as positive.

For the standard solution, the fluid in the control tube of each case in the Wassermann test is used (back row), and is regarded as 100 per cent. hemolysis. This fluid can be diluted to any desirable amount to be placed in the colorimeter, provided that the fluid from the tube to be tested is similarly diluted. It is understood, of course, that the original amount of fluid in each tube must be the same. The standard fluid from the control tube is placed in one side of the colorimeter and the fluid to be tested in the other. The screw is turned until the two solutions have a homogeneous color, and the readings and calculation made as in the case of estimating renal function with phenolsulphonephthalein. Thus the reading on the standard side is used as numerator, that on the side to be tested as denominator, and the fraction multiplied by 100. As can be seen, it is not necessary to apply the method in all cases, and it can be quickly performed in the few cases in which it is found necessary. It has the advantage that there are no standard tubes to deteriorate, as but one is required, and this is fresh at hand every day the reading is made.

1623 Walnut Street.

* From the Genito-Urinary Department, Philadelphia Polyclinic.

AN OPERATION FOR POTT'S DISEASE OF THE SPINE*

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The treatment of Pott's disease, or humpback, by immobilization of the diseased joints has long been the accepted method and is accomplished by various mechanical means, such as braces, plaster-of-Paris jackets, etc. That much success has been obtained by these means there is no question. That there is still much to be desired is equally unquestionable, because these various methods, while they limit motion, do not secure absolute immobilization of the diseased joints or entirely relieve pressure on the involved bodies; for this reason it is necessary to continue treatment for long periods of time, and in almost every case the deformity increases more or less, especially in the dorsal region. It would seem, therefore, that a method of treatment which would absolutely eliminate motion of the diseased vertebræ and entirely relieve pressure on the involved bodies promises more rapid cure of the disease and prevents deformity.

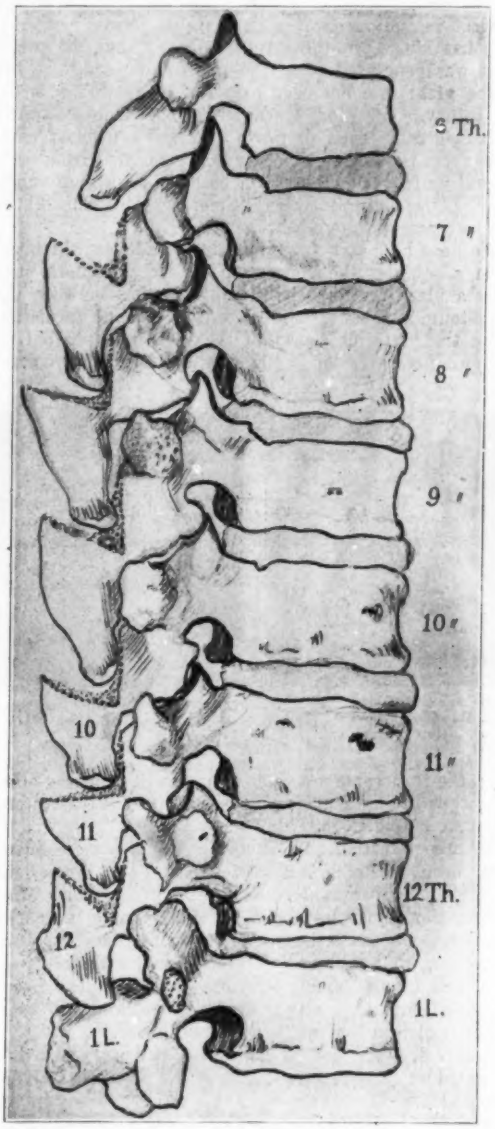
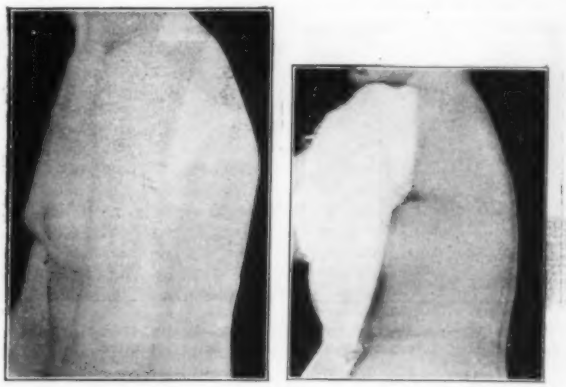


Fig. 1.—Spinous processes partially fractured and used for bridging the gap between the vertebræ.

The disease, being confined to the bodies of the vertebræ, leaves the posterior aspects, laminæ and spinous processes unaffected. It was thought that an operation on this healthy bone-structure offered an opportunity of producing a fusion of the laminæ and spinous processes which would accomplish the desired result. The operation was suggested to me by my experience in the use of an operation, involving practically the same principles, for stiffening the knee-joint by mortising the patella into the joint after it was denuded of periosteum.[1] The patella periosteum was carefully preserved and sutured to the periosteum of the femur above and to that of the tibia below. In these cases continuous bone was produced between the femur and the tibia, obliterating the joint. I thought that, in the spine, the careful removal of the periosteum of the spinous processes and the laminæ, with the spinous processes transposed to bridge the gap between the vertebræ and with the gaps between the laminæ also bridged by bone, would lead to extensive formation of bone, fusing the vertebræ. It is important to observe that in the case of the spine, the gap to be bridged between the laminæ and the spinous processes of any two adjacent vertebræ is very narrow.



Figs. 2 and 3.—Girl, aged 16; mid-dorsal disease, four months' duration; left, before operation; right, eight months after operation.

After experimental work on the cadaver in the laboratory of Dr. George S. Huntington, at the College of Physicians and Surgeons, New York, during the fall of 1910, the first patient, a boy, aged 9, with disease of the second and third lumbar vertebræ, was operated on Jan. 9, 1911, at the New York Orthopædic Hospital. A preliminary report[2] was made of this case, with two others, in which I stated that it might possibly be necessary, in the very young, to graft bone from the tibia. This feature of the technic has since been practiced by

* Read in the Section on Surgery of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

1. Hibbs: Operation for Stiffening the Knee-Joint, Ann. Surg., March, 1911.
2. Hibbs: New York Med. Jour., May 27, 1911.

Albee and Whitman of New York. The former[3] reports three cases, the first operated on June 9, 1911; the latter, Whitman,[4] reports a case operated on Aug. 11, 1911.

I have not used a bone graft as yet, as it has not seemed necessary. It is obviously an advantage not to do so if the desired result may be accomplished without it.

In performing the operation, a longitudinal incision is made directly over the spinous processes, through skin, supraspinous ligament and periosteum, to the tips of the spinous processes. The periosteum is split over both the upper and lower borders of the spinous processes and the laminæ, and stripped back from them to the base of the transverse processes. The spinous processes are then transposed after partial fracture, so that they make contact with fresh bone, the base of each with its own base and the tips with the base of the next below. The adjacent edges of the laminæ being absolutely free from periosteum, a small piece of bone is elevated from the edge of the laminæ and placed across the space between them, its free end in contact with the bare bone of the laminæ next below it.

Figure 1 is a lateral view of the transposed spinous processes.

The lateral walls of periosteum and the split supraspinous ligament are brought together over these processes by interrupted chromic catgut sutures. The skin wound is closed by silk, and a steel brace applied, with the space between the uprights increased somewhat at the site of the wound, so as not to make pressure on it. In some cases the gaps in the periosteum removed from the spinous processes and laminæ have been closed by suture, thus establishing at once a continuous periosteal wall. With the bone bridge established, I doubt the necessity of this practice.

Rest in bed is absolute for from eight to ten weeks. During the next four weeks, sitting up is permitted. At the end of the twelfth week, walking is allowed. The brace is continued for another month, when it is removed for a part of each day until gradually left off entirely. With children under 5 it should be worn for six months.

The number of vertebræ in each instance included in the operation is determined by the extent of the disease. It is necessary always to be sure of attaching the diseased vertebræ at either end of the involved area to healthy ones above and below. The extent of the disease may be determined accurately in some cases by *x*-ray pictures. When this is not possible, the only guide is the kyphos or the region of rigidity. It is a fact that all the vertebræ involved in the kyphos are not diseased and that inaccuracy in the number of vertebræ to be operated on is possible. But care should be taken to include a sufficient number, as otherwise the elimination of motion of the diseased joints will not be obtained. The stiffening of a small segment of the spine in a given case is not a serious matter in view of the fact that the remaining healthy joints compensate for the loss of function of the few. Indeed, is it not a fact that comparatively few patients with Pott's disease (except in the cervical region) recover with movable joints?

It has long been the accepted theory that the osteoblast was generated from the periosteum and for that reason great care has been exercised to remove it without injury. However, Macewen's[5] experimental studies of bone-growth seem to prove that the osteoblast emanates from the bone. Whether it is generated from periosteum or from bone, or from both, is a question which need not be determined in estimating the value of the surgical procedure under discussion.

We have both structures here in abundance; the operation stimulates the generation of the osteoblast, provides a place for its deposit and nutrition between the periosteum and bone, insures continuous bone formation along the posterior aspect of the vertebræ operated on and produces a fusion of laminæ and spinous processes from the transverse processes of one to those of the other side, thus giving a perfectly symmetrical, extensive and adequate support.

Fig. 4.—Woman, aged 25. Lower dorsal disease, before operation.

Fig. 5.—Patient (Fig. 4), twelve months after operation.

Fig. 6.—Child, aged 5. Dorsal disease, before operation.

Fig. 7.—Child (Fig. 6), ten months after operation.

My experience of the beneficial effects of immobilization, even when imperfectly obtained by braces and jackets on tuberculous disease of vertebral and other articulations, justifies me in believing that a more perfect degree of such immobilization, produced by bony anchorage of the diseased structures in the desired position, will unquestionably be of the greatest help in arresting and controlling the morbid process, and will eventually lead to a radical cure of the disease.

I have felt justified in continuing this work and have operated on forty-seven patients at the New York Orthopædic Hospital, twenty-eight operations being in the dorsal, six in the lumbar and thirteen in the dorsolumbar region. Twenty-nine patients were from 2½ to 10, fifteen from 10 to 15, one 18, one 25 and one 41 years of age. The duration of the disease has varied from three months to ten years, but in the large percentage, under five. In all, the wounds have healed without complication, pain has been slight and there has been no reac-

3. Albee: THE JOURNAL A. M. A., Sept. 9, 1911, p. 885.
4. Whitman: Ann. Surg., December, 1911.

5. Macewen: The Growth of Bone, Observations on Osteogenesis, an Experimental Inquiry Into the Development and Reproduction of Diaphyseal Bone, 1912.

tion from the operation. Twenty of the patients have been without support for from three to twelve months and have shown no symptoms of disease or any increase of deformity.

While it is too early to make a final report on these cases, several observations have been made in connection with this operative experience, which are of very significant importance. In twelve cases, or over 25 per cent., a fusion of the laminæ and the spinous processes of two or more vertebræ involved in the kyphos was found. Ten of these patients were under 10 years of age, one 2½, one 15 and one 16 at the time of operation. The duration of the disease in one was four months (the patient 2½ years old), in one two years, in eight under four years and in two ten years.

In eleven cases the fusion was of vertebræ in the lower segment of the kyphos, in four of three vertebræ, in seven of two vertebræ and in one of seven vertebræ, the only one in which fusion was complete in producing anchorage of the diseased vertebræ to healthy ones both below and above. This attempt on the part of Nature to eliminate motion of these diseased joints by extraordinary bone-growth, though it was incomplete in all but one, is very important, as it indicates the principles which should guide the surgeon in attempting to produce this result by operation, and suggests that the procedure herein described, which preserves all the structures essential to the development of bone and stimulates their activity, is consistent with those principles.

CASE REPORT

A boy, aged 5, operated on Aug. 23, 1911, had active dorsal disease with a marked kyphos. The operation included the seventh to the tenth dorsal vertebræ, but the patient did not show, however, after a reasonable length of time, the relief of his symptoms that had been observed in the other cases. It was thought, therefore, that enough vertebræ had not been included in the operation to immobilize all the joints involved. He was operated on a second time, Feb. 20, 1912, and the condition found was very interesting. There was a continuous bone-formation extending in length from the seventh to the tenth dorsal vertebræ, and in width from the transverse processes on one side to those of the other, which was the extent of the first operation. The bone-bridge was not disturbed; it was only extended by anchoring the fifth and sixth dorsal vertebræ to it above, and the eleventh and twelfth below.

There are two considerations in connection with this case that are of very great importance: (1) that in this child of 5 there had taken place throughout the operative field extraordinary bone-growth, sufficient to produce a fusion of the posterior aspect of the vertebræ, and (2) that error in the number of vertebræ included was made.

The rapid improvement of the general health has been observed in most of the cases, especially those operated on early in the disease.

No attempt has been made to correct the deformity by exercise of force. The transposition of the spinous processes does diminish the deformity, however, in all cases, and in those of the lower dorsal region conspicuously so. The operation should be done before deformity develops.

It has been possible to demonstrate the fusion in many cases by the *x*-ray, but not in all. It is very difficult to get pictures which can be reproduced, though occasionally this has been possible.

Figures 2, 3, 4, 5, 6 and 7 are from photographs, before and after operation, of three patients, and illustrate the effect on the deformity at different ages and different stages of the disease. For instance, Figures 2 and 3 show a case of mid-dorsal disease in a girl of 16 operated on three months after the disease began, and illustrate the possibility of the prevention of deformity when the operation is done early. Figures 4, 5, 6 and 7 are of patients 25 and 5 years of age, respectively, and show a conspicuous change in the deformity though the operation was done later in the disease.

The fact that twenty of these patients have been without support from three to fourteen months since the operation and show no symptoms of increase of deformity or activity of the disease leads one to hope that the operation will be rapidly curative.

130 East Thirty-Sixth Street.

ABSTRACT OF DISCUSSION

DR. GEORGE S. HUNTINGTON, New York: From the standpoint of the development of the vertebral column and its adult structure, there are several points which may be worthy of consideration: 1. The bony spine and the associated ligamentous apparatus tend to synostotic union of the individual segments under very slight provocation. I have been impressed by the relative frequency of fusion, partial or complete, between two or more vertebræ of the lumbar and lower thoracic groups as observed in the reference osteologic collection at Columbia, containing over 5,000 columns. In many instances the skeletal conditions are otherwise normal, without trace of arthritic or exostotic processes. Dr. Hibbs' operation invades a territory in which natural tendencies are in favor of a good result, with abundant and markedly responsive osteoplastic material ready to hand at the site of the operation. 2. In the younger individuals, I have no doubt that the epiphyseal plates and centers of the spines respond actively to the operative stimulus and contribute materially to the successful results which Dr. Hibbs has achieved. 3. The characteristic cancellous structure of the vertebræ suggests the propriety of securing an osteoplastic bed of the same material for the production of the bridge. This appears to me to have a natural and important advantage as contrasted with the attempt to acclimate a corticalis splint from one of the shaft bones in the cancellous environment of the spine. 4. Spontaneous cure of a slight kyphos involving a single center, by synostotic union of spines and neural arches, has been observed in our material. Dr. Hibbs' operation appears correctly devised and executed to secure the best results by employing the most available osteoplastic material and by taking advantage of the natural tendency toward fusion existing in the region involved.

DR. FRED H. ALBEE, New York: In 1911 I operated, for the first time, on a child at the Post-Graduate Hospital, using a method somewhat similar to that employed by Dr. Hibbs. The spinous processes of the vertebra involved were split longitudinally, and then broken. The right half was broken down and approximated to the left half of the next lower vertebra. Four patients were operated on by this method and the cases were reported in abstract at the American Orthopedic Association, May 15, 1911. The only element in the mechanics of the spine which holds it in extension are the muscular and ligamentous action on the spinous processes as levers. If we hold the spine rigid until bony union takes place, the Pott's disease is cured. Of course, there is a large amount of cartilage in the spinous processes of young children and the union is sure to be slow and no appreciable fixation can be obtained until union does take place. In forty-seven cases I have transplanted a plate of tibia of the same patient into the notch produced by splitting the spinous processes of the vertebræ involved and one healthy one on each side. The spinous process acts as a posterior lever, and each vertebra should be considered as a lever, the spinous process being one arm and the body of the vertebra the other arm. The fulcrum consists of the joints of the spine or the lateral facets. In most cases the spinous process is longer than the body; therefore, if we fasten together the tips of the spinous processes, we will prevent the approximation or crushing of the bodies of the vertebra and the resulting deformity. If the spinous

processes are completely broken or cut at their base the leverage action is lost and the natural stability of the spine is much weakened. The advantages of my bone transplantation operation are that it is very superficial; that it straightens the spine and gives very perfect fixation the moment the operation is done; that it is away from the spinal canal, and that if there is overgrowth of bone, no harm may be done to the spinal cord. I have seen cases in which fractures of the lamina have produced exostosis in the spinal canal and pressure on the cord. This must be avoided. In my method the spinous processes are split *en masse*, and this plate of bone taken from the tibia is placed into the split, acting as a sort of wedge, which holds the vertebra as a splint would. I have not been able to amalgamate the vertebræ in dogs by any other method.

Dr. Michael Casper, Louisville, Ky.: Is there any danger in a patient, 40 years old, of breaking the spinous processes off entirely? Is not the same thing true of the lamina? How does Dr. Hibbs hold in place the piece of lamina which he breaks off?

Dr. R. A. Hibbs, New York: After the periosteum is removed from the spinous processes and laminæ and the spinous processes are transposed so as to bridge the gap between them, a bone bridge is also made between the laminæ by elevating a small piece of bone from the laminæ and turning its free end down, so that it makes contact with the adjacent laminæ. After the periosteum is brought back and sutured, both of these bone bridges are held in place by it. It is not necessary in the dorsal region to fracture the spinous processes completely, though sometimes it may be done in the lumbar region; it is always easy to have either end of the transposed spinous process in contact with fresh bone, which is all that is necessary. In all the cases thus far, complete fusion has occurred, demonstrated by skiagrams, by unmistakable clinical evidence of the elimination of motion and by the case operated on the second time. My first idea was, that in very young children it would be necessary to use bone-grafts, but it would seem that we have at hand, at the seat of operation, sufficient bone and bone-producing structures to make bone-grafting unnecessary.

The results I have obtained are sufficiently encouraging to justify a continuance of this work, and I will make a detailed report of every case when a sufficient length of time has elapsed to show end-results.

PHYSICAL INJURIES AS RESULTS OF HYDROFLUORIC ACID

LAURA H. BRANSON, M.S., M.D.
IOWA CITY, IOWA

History.—March 20, 1912, Mr. E. M. A., an instructor in the chemical laboratory of the Iowa State University, while etching glass with a 48 per cent. solution of hydrofluoric acid, sustained an injury to the thumb, index- and middle fingers of the right hand.

Immediately following the accidental application of not more than 3 minims of the acid, the patient complained of a sharp stinging pain on the surface covered by the acid, which gradually gave way to a deep-seated penetrating pain which he described by the Norwegian word, *gjennentraengende*. Accompanying this deep penetrating pain were loss of appetite, a feeling of increased bodily warmth, and a restlessness which gradually merged into an intense nervousness as the pain became more severe. Locally the region attacked by the acid became blackened and sharply defined from the normal tissue.

Examination.—The patient was first seen eight hours after the occurrence of the accident. The superficial pain had subsided, and the deep pain had increased in severity, and was accompanied by local heat, edema and stiffening of the first joints of the three fingers attacked. There was an area of escharotic, blackened tissue separated from the normal tissue by a sharp line of demarcation, a temperature of 103 F., and a general nervous condition.

Treatment.—As I had never had any experience in regard to poison or burn by hydrofluoric acid, treatment could be initiated only on the general principles underlying treatment of corrosive mineral acid injuries, viz.: use of remedies for relief of pain, and use of alkalies to limit action of acid.

Patient was next seen six hours later, fourteen hours after the occurrence of the injury. During these six hours the deep penetrating pain had increased in severity until it had become almost unbearable, the patient walking the floor constantly in his agony. The temperature was 105 F. and the nervous condition was extreme.

For the relief of pain and the control of the nervousness codein was administered every fifteen minutes until narcosis had set in, as manifested by the desired relaxation and finally by sleep. In the meantime, the tissues attacked were painted with a preparation consisting of equal parts of tincture of iodin and hydrogen peroxid, and covered with a light dressing of absorbent cotton and surgeon's gauze.

The use of codein was continued for forty-eight hours, when the penetrating quality of the pain ceased, leaving in its place a dull heavy pain particularly noticeable on pressure of the afflicted parts. With the cessation of the pain the nervous symptoms and the elevation of temperature disappeared.

The external applications were continued every hour for four days, then four times a day for two weeks, when rubber finger-stalls lined with absorbent cotton were substituted for the purpose of protection.

Result.—Resolution was exceedingly slow, final separation of the escharotic tissue taking place in the middle-finger in three and a half weeks, in the index-finger in four and a half weeks, while in the thumb the process required eight weeks for its completion. At the time of writing, ten weeks after the initial lesion, the bony structure and also the first joints are still very sensitive to touch or pressure, this sensitiveness corresponding to periosteum and synovial membrane.

Hydrofluoric acid is produced by the action of sulphuric acid on calcium fluorid; it is classed in special toxicology[1] with the mineral acids under corrosives or irritant poisons. It is an intensely irritating acid gas, and is dangerous when taken internally either in the form of gas or solution; when applied externally even in a dilute solution its effects are disastrous. Its principal use has been for etching on glass in making labels and signs; recently, however, since the introduction of porcelain inlays by dentists, hydrofluoric acid is extensively used to roughen the posterior surface of these inlays in order that they may better adhere, through the cement used, to the surfaces of the teeth to which they are to be attached. Dentists keep this acid in rubber bottles and apply it to the inlays by means of a platinum wire loop, great care being taken to avoid direct contact with animal tissue.

Two deaths have been reported from the inhalation of hydrofluoric acid gas: one that of a chemist at Nancy,[2] the other that of a Belgium chemist.[3]

Three suicides by taking hydrofluoric acid in solution are on record: 1. A man took internally 15 c.c.; death occurred in thirty-five minutes.[4] 2. A glass-sign maker took a gill; death occurred in two hours.[5] 3. A glass-sign maker took a tablespoonful of a 9 per cent. solution diluted; death occurred in one hour.[5] In these three case reports the exact degree of concentration is not given; it is difficult, therefore, to tell the exact amount of this acid in solution which might be called a fatal dose.

Action of hydrofluoric acid on animal tissue when applied locally:

1. Witthaus: Manual of Toxicology, 1911, p. 227.
2. Jour. de pharm. et de chim., 1869, 4s, ix, 446.
3. Rabuteau: Toxicologie, Ed. 2, 710.
4. Tr. Path. Soc., London, 1873, xxiv, 98.
5. Stevenson: Brit. Med. Jour., 1899, ii, 1145, 1376.

1. Hydrofluoric acid may act as an acid and destroy tissue, or it may be absorbed and act as a poison.

2. The amount of tissue destroyed is great in comparison with the amount of acid used.

3. The action of hydrofluoric acid does not stop with the escharotic effect on the surface and the tissues immediately underlying; it penetrates to the deep tissues on which it has a most deleterious effect, as evidenced by the condition of the periosteum and synovial membranes in the case reported.

4. Hydrofluoric acid injuries are peculiar also when we take into consideration the great length of time for resolution to take place after the involvement of a comparatively small amount of tissue.

Action of hydrofluoric acid on animal economy in general.—There is danger from the liability of shock and collapse following its external application because of the peculiar penetrating nature of the pain accompanied, as it is, by most intense disturbances of the nervous system.

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THROMBOPHLEBITIS OF THE LEFT LEG *

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The unexpected occurrence, the obscure etiology and the constancy of localization of thrombophlebitis in the left leg attach to it a universal interest which does not belong to either a strictly medical or a strictly surgical subject. The internist, the surgeon, the obstetrician, the gynecologist and the genito-urinary man all have to deal with it and have given us their ideas concerning it.

Because of its relations to other diseases we must consider it to be a sequel or a complication, and as such it is associated with a great variety of troubles, as infectious diseases, gout, confinement, cardiac insufficiency and operations, both clean and infected.

Thrombophlebitis, as the term implies, is an inflammatory process of a vein which is accompanied by the formation of a thrombus within the involved vessel.

The primary factors in the production of a thrombus are toxemia, bacteriemia and the coagulability of the blood, while, secondarily, the seat of such a process is determined by such changes in the vessel wall as result from trauma, local infections, degenerations, and by a slowing of the blood-current.

The effect of toxemia on the formation of thromboses bears a very close relation to its effect on the coagulation time of the blood. The shorter the coagulation time the more likely thromboses, and *vice versa*. These blood changes Myer Solis Cohen,[1] of Philadelphia, has thoroughly reviewed, and from his conclusions we see that there is no one particular chemical condition of the blood which we can invariably hold responsible for thrombosis, nor can we change at our pleasure the chemistry of the blood so as to prevent or favor thrombus formation, as even those substances on which we have placed most reliance to alter the blood's coagulation time, as calcium salts, gelatin, citric acid, etc., act differently in the presence of different diseases.

Bacteriemia, a condition which exists in the majority of all infections, is a very prolific cause of thrombosis. Jakowski[2] injected cultures and solutions of toxins of typhoid and diphtheria bacilli into the circulating blood of rabbits and guinea-pigs. Without constriction of a vessel no thrombus was formed; also, there was no thrombus formation after toxin injection with constriction; but there was always a thrombus formation after bacterial injections accompanied by a vessel constriction. Jakowski concluded that the toxins after being injected into the blood-stream were too weak to induce a thrombotic process, but that the bacteria lodging and growing on the vessel wall made sufficient intimal and blood changes to produce a thrombosis.

That change of the blood-vessel wall which superinduces thrombosis is the destruction or alteration of the intimal cells. Just so long as the intima remains intact and in a healthy condition a thrombus does not form, but when intimal changes do occur and we have their chemical and physical effects acting on the blood-stream in sufficient strength to produce coagulation, we have a thrombus formation in that place, but in no other.

Since the condition of the intima is the all-important factor which determines the location of thrombus formation, let us consider carefully its relations and the source of its alteration from the normal. The intima is a very delicate membrane of the serous type. Its nourishment is derived principally from the blood-stream of the vessel which it lines and not from the vasa vasorum which nourish the rest of the vessel wall. Thus we see that the intima of the veins has not only a depleted blood from which to derive its nourishment, but is also subjected to the actions of the concentrated toxins of the venous flow.

Of the many cases of venous thrombosis reported, exclusive of capillary thrombi, we find that at least 90 per cent. occur in the veins of the left leg. This is not true of arterial thrombi for, although the most frequent site of their formation is in the lower limbs, they occur as frequently in the right as in the left (Welch[3]).

If the dominating factor of thrombus formation be a primary phlebitis with a low-grade infection coming through the vasa vasorum, as suggested by Cordier;[4] or if it be the consequent feebleness of the general circulation of cardiac insufficiency, anemia or cachetic states when marantic thrombi form; or if it be the blood changes of septicemia, pyemia or infectious diseases; or even if it be the effect of traumatism on the deep epigastric veins during abdominal operations, as suggested by Clark,[5] why should it take place so constantly in the left leg? If the valves of the veins play so important a part, why should not the valves of the right leg or the more extensive pockets and irregularities of the cerebral sinuses act in the same way? We can readily understand why a thrombus should form in any location as the result of injury, inflammatory process or local degeneration, but in such cases as typhoid, anemia and after operations, why should it occur so persistently in the veins of the left leg? Certainly the local conditions of the veins of that part are the determining factors.

To say that a *locus minoris resistentiæ* exists in the left saphenous, femoral and external iliac veins with no specific reason for the same, as suggested by several

* Read in the Section on Surgery of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

1. Cohen: Arch. Int. Med., 1911, viii, No. 5, p. 684; No. 6, p. 820.

2. Jakowski: Ueber die Mitwirkung der Mikro-Organismen beim Entstehen der Venen-thrombosen, Centralbl. f. Bakteriol., 1900, xxviii, No. 3, p. 801.

3. Welch: Thrombosis, Allbutt's System of Medicine, vi, 155, etc.

4. Cordier: Phlebitis Following Abdominal and Pelvic Operations, THE JOURNAL A. M. A., Feb. 16, 1905, p. 1792.

5. Clark: Etiology of Postoperative Femoral-Phlebitis, Univ. Penn. Med. Bull., 1902-1903, xv, No. 5, p. 154.

writers, seems only to be begging the question, and I believe it is not so much the degree of resistance as it is the severity of the conditions to be resisted that allows such a majority of thromboses to occur in the one location. The intimal cells of the veins of the left leg certainly have the same metabolic powers as do the intimal cells of other veins, and therefore it must be the greater devitalizing effects of the blood-current in the left saphenous, femoral and external iliac veins that favor thrombus formation in these vessels. This greater devitalizing effect is not because the toxins are more concentrated or virulent, but rather that they have a better opportunity to act. And now the question, why do they have a better opportunity to act?

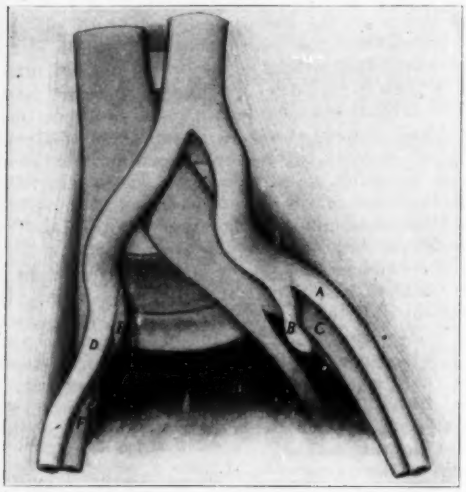


Fig. 1.

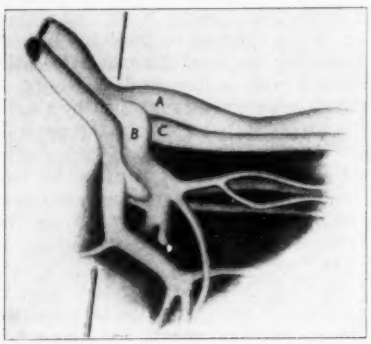


Fig. 2.

A = Left external iliac artery.
B = Left internal iliac artery.
C = Left external iliac vein.
D = Right external iliac artery.

In comparing the left leg with the rest of the body the most important condition with which the veins there have to contend more than do the veins of other parts is the peculiar relations of the surrounding structures which produce a retarded blood-flow.

The effects of a retarded blood-current in the presence of factors favorable for thrombus formation are nicely demonstrated by injecting cultures of bacteria and toxins into the circulating blood of rabbits and guinea-pigs. A thrombus does not form unless the injection be accompanied by vessel constriction and a slight continued elastic pressure is found to be more effective than a stronger, but transient pressure.

The factors which have been mentioned as producing a retarded blood-flow in the veins of the left leg are: (1) the fact that the left common iliac vein is crossed by the right common iliac artery which compresses it against the body of the fifth lumbar vertebra and intervertebral disk (Leibermeister); (2) that the left internal iliac artery as it passes downward to the great sacrosciatic foramen crosses the left external iliac vein at a right angle, which is in marked contrast to the relation of the vessels on the right side (Haward[6]); (3) the greater length of the left iliac vessels; (4) a loaded sigmoid colon and frequent enemas.

Fig. 3.

Fig. 4.

Fig. 5.

E = Right internal iliac artery.
F = Right external iliac vein.
G = Left iliolumbar artery.
H = Right iliolumbar artery.

There is no question, but that the obstructive effect of the right common iliac artery crossing the left common iliac vein is a retarded venous flow which is most favorable for thrombus formation, but if this compression of the left common iliac vein by the right common iliac artery were the determining factor of a left-sided thrombophlebitis, the internal iliac vein and branches should suffer the same as do the external iliac vein and

6. Haward: Phlebitis and Thrombosis, The Hunterian Lectures, 1906.

branches; but this is not the case, and we must look for an additional factor acting only on the external iliac vein. This condition, I believe, we find in the constricting elastic arterial loop about the external iliac vein at its termination (Figs. 1-5).

On the left side the terminus of the common iliac artery and the point of origin of the common iliac vein lie on the mesial surface of the psoas magnus muscle, the artery being anterolateral to the vein. The internal iliac artery passes mediad, caudad and dorsad around the termination of the external iliac vein and comes to lie anterocaudad to the internal iliac vein (Figs. 1, 3). The trunk of the internal iliac artery varies from ½ to 1½ inches in length, but in the majority of cases is not more than ¾ inch long. In the angle of junction of the external and internal iliac veins the iliolumbar artery arises from the posterior surface of either the main stem or the posterior division of the internal iliac artery (Figs. 4, 5). If the main trunk of the internal iliac artery is long, the iliolumbar arises from it.

The iliolumbar artery passes cephalad, dorsad and laterad from its origin into the iliac fossa under the psoas and iliacus muscles. With but very few exceptions the first portion of the iliolumbar artery lies in direct contact with the external iliac vein at, or near, its junction with the internal iliac vein (Fig. 3). When this is the case the external iliac vein is encircled for three-fourths of its circumference by an arterial loop formed by the termination of the common iliac, the internal iliac, with its posterior division occasionally, and the iliolumbar artery. This arterial loop hugs the external iliac vein so closely that, when both arteries and veins *in situ* have been filled with a plaster-of-Paris mixture and allowed to harden, it produces a decided groove in the vein (Fig. 3). The filling of these vessels was done by injecting the plaster into the abdominal aorta and inferior vena cava. By this method both the right and left iliac vessels were subjected to the same pressure of the mixture within their walls.

On the right side the relations of the vessels are very different and do not produce any evidence of obstruction to the venous flow (Figs. 1, 5). The common iliac artery at its termination lies almost directly anterior to the termination of the external iliac and the formation of the common iliac vein. The internal iliac artery passes from its origin in an almost straight line caudad and dorsad into the pelvis. The iliolumbar artery nearly always arises from the posterior division of the internal iliac about ½ inch below the level of the external iliac vein (Fig. 5). In only three instances was it found to touch the external vein in its passage cephalad and dorsad into the iliac fossa, and in no case in which the subject was injected did the vein show evidence of constriction or compression by the surrounding structures. The relations of the external iliac veins below the points where they are crossed by the internal iliac arteries are almost identical, and nowhere do they show that they are encroached on by the adjacent structures.

Since it has been shown that constriction and especially mild continued constriction is a most important factor in inducing a thrombotic process, I believe that the above-described constricting arterial loop about the termination of the left external iliac vein a very important, if not the most important, factor in determining a left-sided thrombophlebitis.

We do not find, however, that the thrombotic process is always initiated at the point of obstruction, for certainly a large portion of thromboses of the left leg manifest their first symptoms about or below the knee. It is not probable that only the portion of the vessel-wall and blood-stream adjacent to the point of obstruction are altered by such an obstruction; the probabilities are rather that all parts distal to it suffer, and this, with the presence of valves or varicosities, gives us those conditions which are necessary to initiate a thrombophlebitis.

Murray Hospital.

ABSTRACT OF DISCUSSION

DR. H. A. ROYSTER, Raleigh, N C: There are some objections to any anatomic explanation. The first is that these cases occur in groups. I think it is the experience of every surgeon who has had this condition occur in his work that at certain times there is a run of cases, three or four in a year, and then for several years he does not see a single case. An anatomic explanation ought to be more uniform in its expression.

I would like to ask, moreover, whether or not anatomic anomalies have any significance, and whether Dr. Kistler has thought of such variations occurring, and their relation to this constriction. In 1902, Riedl, of Jena, brought out the fact that the right iliac vein crosses the right iliac artery at a very acute angle. The artery gradually pushes itself past the vein to emerge above Poupart's ligament, to the lateral side of it, and then rests in the median line above it. The same artery still higher up crosses the left iliac vein almost at a right angle, exerting a greater pressure on the left than on the right vein. At this point anteriorly the quite large median sacral artery passes downward to the spinal column, so that the left iliac vein is to a certain extent enclosed within the acute angle formed by the crossing of the right iliac artery and the median sacral. Still lower down the left hypogastric artery passes obliquely in front of the left iliac vein. The left iliac vein is therefore subjected to a threefold arterial pressure, while the right iliac vein is subjected to but a single pressure. This, Riedl said, might explain the relatively larger frequency of left-sided thrombosis. In such cases as this we may have all sorts of anatomic explanations which really do not explain at all, unless we can prove that they actually existed in the individual case.

The most important thing for the practical surgeon is not so much to determine how it occurs as to ascertain what might be done to prevent the occurrence of the condition or to give relief from it. If it is really a case of arterial constriction or anatomic pressure, we can hope to do very little to relieve the condition or to prevent its coming on.

Other explanations have been made. Clark spoke of the pressure of the abdominal retractor on the deep epigastric artery. Many writers have referred to keeping patients in bed too long on their backs. Others have regarded it as being due to a low-grade toxemia. What we want to know, however, is how to prevent this condition, and perhaps the explanation offered by Dr. Kistler might be followed up by some suggestion for its relief.

DR. H. D. KISTLER, Butte, Mont.: I cannot say why these cases occur in groups. I do not think that anybody knows exactly what the etiology of this condition is. The only question is why it always occurs in the same place. I believe that is due more to the anatomic relation of these vessels than anything else. This condition of the vessels occurs in about 90 per cent. of all individuals. I believe we have this condition of the constriction of the external iliac vein in about 90 per cent. of the cases we have examined. On the other side of the body the relation of the external iliac vessels is very different, and in no case have we found a constricting circle, and in only three of the cases examined have we found this vessel, the iliolumbar, even to touch the termination of the external iliac vein. This vessel can readily be reached and severed, and thus the patient can be saved from much suffering and a convalescence made smooth which otherwise would be very much disturbed.

A NEW SIMPLE APPARATUS FOR THE INTRAVENOUS ADMINISTRATION OF SALVARSAN WITH SALINE SOLUTION PRECEDING AND FOLLOWING

O. LEGRAND SUGGETT, M.D., ST. LOUIS

My apparatus consists of a small glass funnel 2¼ inches in its widest diameter and 2½ inches long, having just enough stem to attach snugly the longest tubing, which is of dark, very flexible rubber, with a lumen of 3/16-inch and 36 inches long, which is united with another piece of the same kind, 6 inches long, by a section of glass tubing of the same caliber, 2 inches long, with a bayonet needle on the end of this. This may all be encompassed in a sterile glass jar 2¾ inches in diameter and 3 inches in height, as shown in illustration, by coiling the tubing snugly around inside and placing inside this the short section of glass tubing and needle and last the funnel, conical end down, and replacing the glass lid which is supplied with a rubber washer, as are fruit jars, making it air-tight, and fastening it down with the wire spring. The entire outfit can be carried in one's pocket. Its use is equally simple. After sterilizing the little apparatus thoroughly by running a continuous stream of boiling water through it for a few minutes, then an ounce or two of alcohol, finally rinsing it out by pouring distilled water into it, and sterilizing the patient's arm at site of puncture with alcohol and gauze and injecting 2 minims of a 10 per cent.

Apparatus for the intravenous administration of salvarsan with saline solution preceding and following; also the glass container, as marketed by the A. S. Aloe Company, St. Louis.

solution of cocain intradermically, which is sufficient to anesthetize the skin but not distort the land-mark, and having the salt solution and salvarsan prepared in the usual way—filtered and warm, in separate Florence flasks of about 10 ounces capacity, the needle is plunged into the vein; the salt solution is poured into the funnel which is held about three feet above the patient's arm by a nurse or assistant, enough being allowed to flow through to warm the tubing and expel all the air before it is coupled onto the needle. It is poured in continually and the funnel never permitted to become entirely empty; a sufficient quantity is permitted to flow to assure that the needle has entered the vein, then the salvarsan is poured in before the last of the salt solution has left the funnel—an uninterrupted flow being kept up until the desired dose has been given, when 2 or 3 ounces more of the salt solution is poured in just as the last of the salvarsan is receding from the funnel, thereby flushing out the tube and needle and preventing any of the salvarsan from getting into the tissues outside of the vein on its withdrawal, taking the precaution before mentioned, throughout the entire procedure, not to permit the funnel to become empty. As the last of the saline is leaving the funnel, the flow should be shut off, by pinching the tubing between thumb and finger at its juncture with the needle, withdrawing the latter quickly.

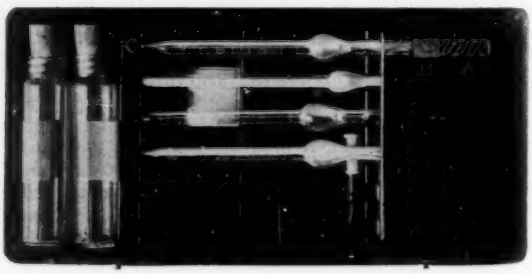
If at any time the flow becomes slow or tedious, the tubing should be milked toward the vein, or a loop of it may be taken up in the disengaged hand and compressed sharply several times giving it a pumping or bulb effect after, of course, the assistant has pinched it tightly near the neck of the funnel to prevent it regurgitating. The little section of glass tubing would indicate a bubble of air, but is wholly unnecessary, if the technic is properly carried out. Should it become imperative to use it when gas or other heat was not available, the little apparatus I have described can be thoroughly sterilized in the office and the solutions may be prepared there, also, and maintained at the proper temperature for hours and conveyed in small suitable sterilized thermos bottles.

A POCKET-CASE FOR FULL BLOOD-PIPETS

GAYLORD W. GRAVES, M.D., NEW YORK

That need for so simple an agent still exists is proved by the multiplicity of home-made contrivances in the possession of laboratory workers and by the fact that an expensive sterilizable, metal affair recently introduced to the instrument market has twice the weight and dimensions desirable and yet provides for only two pipets.

My case has space for two bottles of diluting fluid, a small supply of cover-glasses for smears, and compartments for six pipets. Each of the last is held securely in position between rubber buffers, B and C, by the action of a strong spiral spring, A, which is capped with hard rubber cork, and anchored at the base of a cylindrical hole in the wood of the case. Pressure backward on this spring permits of the withdrawal or insertion of a pipet; and experience has shown



A pocket-case for full blood-pipets.

that the contained fluid when carried in a tube, thus automatically locked in position, does not escape. The measurements of the case are 8 by 4 by 1¼ inches. It can readily be duplicated by any good cabinet-maker at moderate cost or modified as desired to permit of space for slides, alcohol, gauze, and Widal or Wassermann tubes.

46 West Eighty-Third Street.

DETERMINATION OF END-REACTION IN ESTIMATION OF GLUCOSE

FRANCIS BRINTON JACOBS, M.D., PHILADELPHIA

I offer a slight modification of a very old method of determining the end-reaction of the quantitative determination of glucose in the urine. In the experience of every one who has used Fehling's solution in the quantitative determination of glucose and tried to make up his mind when the reaction is complete by the disappearance of the blue color of the solution, it must be impressed on him how hard it is to say at just what point the "blue" all disappears and when the solution becomes clear, which is recommended in most textbooks on the subject as the final step.

The chemical reaction for determining this end-reaction is given to us as follows: Remove a small portion of the mixture (of Fehling's solution and urine) contained in the beaker (in a test-tube), add a few drops of acetic acid and then a few drops of potassium ferrocyanid. If the color of the mixture turns brown then the reaction is not finished

or, in other words, the copper in the solution has not been entirely reduced by the glucose and the process must be continued or, to be accurate, should be entirely done over, this process being repeated until the remaining fluid in the test-tube after another attempt (on the addition of acetic acid and potassium ferrocyanid) is entirely clear.

This necessitates a long and tedious repetition and it is my object to accomplish the same end without necessitating a repetition of the processes.

The removal of several cubic centimeters of the mixed urine and Fehling's solution in the beaker of necessity diminishes the quantity an appreciable amount and thus if the process were continued without making up new dilutions of the urine and Fehling's solution the result would be far from accurate, especially if it was done more than once, and therefore the final reading and calculation would be too high.

The very simple method I suggest is as follows: Take a porcelain plate in which are several depressions. In Depression 1, place acetic acid; in Depression 2 place potassium ferrocyanid solution. Then, with a large-sized stirring-rod remove one drop of the mixed urine and Fehling's solution from the beaker and place in Depression 3. Wipe off on a towel the end of the stirring-rod, add a drop of acetic acid from Depression 1 to Depression 3, containing the mixed urine and Fehling's solution, and then one drop of potassium ferrocyanid from Depression 2, mix the three drops together. If a brown color remains the reaction is not finished. Therefore, add a few drops more of the diluted urine from the buret and test again on the plate as before, repeating this process until there is no color to the last mixture.

By this method only three or four drops of the mixed urine and Fehling's solution will be removed from the beaker and the result will be as accurate as it is possible to be by this method and is near enough for all practical purposes.

I have used this method in several hundred examinations at the Polyclinic Hospital laboratory and have found it so satisfactory that I thought it might be of use to the profession in general.

The reaction will show the change of color or dividing line on the addition of one drop from the buret and at the same point when all the "blue" has disappeared.

2032 Chestnut Street.

A NEW METHOD OF USING FEHLING'S SOLUTION*

JOHN W. HUNTER, M.D., PHILADELPHIA

The principal difficulty which obtains in the use of Fehling's solution is the determination of the end-point of the reaction, that is, the point at which the copper has been just completely reduced. Heretofore, we have usually relied on our judgment as to whether the blue color had entirely disappeared from the more or less clear supernatant fluid after the precipitate had settled.

This, I contend, is not a reliable method of determining the end-point. We can often demonstrate the presence of unreduced copper in what is apparently a colorless or rather "blueless" supernatant fluid. Several means of fixing the end-point have been suggested, but they are all more or less cumbersome or time-consuming, especially for ordinary clinical work.

The method which I propose has proved very satisfactory and has the merit of being simple, rapid and fairly accurate. The principle on which it depends is that of separating the more or less clear supernatant fluid into two adjacent layers by heating the upper portion and then comparing these two layers after the reducing substance has been added to the upper hot layer. If there is reducible copper in the fluid the upper layer will show a reddish tinge whose density will depend on the amount of copper reduced.

The technic is as follows: The urine is diluted five times if the specific gravity is 1.030 or below and ten times if above 1.030.

Into a long, comparatively narrow test-tube is put 1 c.c. of Fehling's solution and a small amount of very finely powdered talcum or pumice. This is diluted with 3 or 4 c.c. of distilled water so that we have in the tube a fairly long column of fluid. After boiling, a few tenths of a cubic centimeter of the diluted urine are added and the contents of the tube brought to the boiling point. The precipitate is allowed to settle. This settling takes place rapidly if the pumice or talcum is very finely powdered. After the precipitate settles the tube is cooled by holding it in a running stream of cold water for a moment or two; it is then wiped with a towel and the upper portion of the supernatant fluid heated to or near to the boiling point. One-tenth cubic centimeter of the diluted urine is then carefully added and after a moment or two the appearance of the two layers (cold and hot) is noted. If there is a reddish tinge, due to suspended cuprous oxid, in the upper layer, the contents of the tube are again boiled, the precipitate allowed to settle and the foregoing procedure again carried out. This process is repeated until on the addition of 0.1 or, to be more accurate, 0.01 c.c. of diluted urine to the upper hot layer, no reddish tinge is discernible in that layer. This means that there was no copper to be reduced, it all having been reduced by the previous additions of diluted urine.

The amount of diluted urine added less the last instalment is the amount required to reduce 1 c.c. of Fehling's solution and from this the percentage calculation is made.

3400 Spruce Street.

* From the William Pepper Laboratory of Clinical Medicine, University of Pennsylvania.

A METHOD OF PHOTOGRAPHING LIVING ORGANISMS*

KENNETH TAYLOR, M.A., MINNEAPOLIS

The lack of any satisfactory method of photographing living microscopic organisms *in situ* makes it seem desirable to publish the following simple method. It is one by which a microscopic preparation of the living organism can be made, which will allow the latter to be watched in its growth and photographed by transmitted light. It will be of service especially as applied to the higher bacteria and fungi where the manner of division, branching and spore-bearing is of importance, and its accurate registration desired.

The method is a combination of the hanging-block and the India-ink methods of demonstrating unstained bacteria. The blocks for this purpose are easily made by pouring melted glycerin agar on a microscopic slide to form a thin film, and retained by standing other slides on edge about the first. This will be found to be more easily handled than the film poured in a Petri capsule. When cool it may be cut into blocks about 10 mm. square.

It is important to use glycerin agar for the blocks because the glycerin seems to prevent the fixation of the carbon granules of the India ink to be used later, and the consequent formation of an immovable film to obscure the growth of the organism.

A small drop of India ink, diluted one-half with sterile water, is placed on a clean cover-slip and inoculated with the organism from broth or solid media. A block of agar is then pushed half way off the end of the slide on which it was poured as above and gently lowered until the edge is in contact with the inoculated ink, which will quickly spread by capillary attraction along the line of contact. The rest of the block may then be freed from its slide and lowered, spreading the ink with it. In this way a fairly even film of ink may be secured between the agar and the cover-glass. Many organisms will grow quite normally in this India ink.

The cover-slip preparation may be inverted and mounted on a hollow-ground slide in the usual way. Microphotographs of the organism may then be taken in successive stages of development, without showing the distortion and fragmentation inevitable in the ordinary stained preparation.

* From the Department of Pathology and Bacteriology, University of Minnesota.

A CASE OF UNSUSPECTED MELANOSARCOMA OF THE CHORIOID *

CLINICAL REPORT BY CHARLES R. HEED, M.D., PHILADELPHIA
PATHOLOGIC REPORT BY SIDNEY L. OLSHO, M.D., PHILADELPHIA

The case reported below is considered of interest for the following reasons:

1. Because of the unsuspected serious nature of the condition present, the symptoms being those of iritis, with diminished intra-ocular tension, whereas one would expect those of glaucoma, with increased intra-ocular tension.

2. Because it emphasizes the necessity of enucleating blind eyes which are giving pain, as these may contain life-destroying potentialities.

Fig. 1.—Gross pathologic specimen from a case of melanosarcoma of the choriold, mounted in formalized gelatin.

Fig. 2.—Low magnification of same specimen as in Figure 1, showing detached retina and intrachorioidal position of tumor.

3. Because it demonstrates the importance of a pathologic examination of all eyes removed.

History.—The patient, D. McA., aged 31, was a core-maker, native of Philadelphia. His father died as result of accident, aged 55; health always good; he used glasses for near work only; eyes were healthy. Mother, aged 55, living and well; uses glasses for near work only. Four brothers and two sisters are living and in good health. Only one brother wears glasses. No family history of ocular disease is obtainable. Patient had pneumonic typhoid at 15; no other illness remembered. He has had deafness of right ear for ten years; no discharge. On July 28, 1910, patient's right eye was struck by a fist. Soon afterward he had a "black eye." The sclera was red for two weeks. All pain disappeared within twenty-four hours. The sight was not noticeably impaired. Six months previous to this trauma, the patient passed an examination for admission to the Navy and he says that he was at that time able to read the test-cards equally well with either eye. Seven months after the accident, while removing a foreign body from the left eye, he discovered the blindness of the right eye. Patient suffered no ocular pain until Aug. 1, 1911, one year after the accident. The onset was sudden at 3 a. m. The pain was to the temporal side of the eye and extended to the back of the head. It was constant and became gradually worse. The eye became very red. He applied to his physician for treatment on the following afternoon. He was seen at the Polyclinic Hospital, Dr. Sweet's service, for the first time on Aug. 12, 1911. He said that he had suffered intense pain all night. He had some lotion containing laudanum and arnica, which he had applied on cloths to his eye, by direction of his first physician.

Examination, Treatment and Course.—Right eye vision equaled light perception. Palpebral and bulbar conjunctiva was extremely congested. Ciliary congestion was very marked; cornea hazy; pupil fixed, 2 mm. in diameter. Iris was dull-gray; tension was minus. A diagnosis of iritis was made. Heat, atropin and protiodid of mercury were prescribed.

August 15: Patient said that pain was lessened but still quite severe at night. Examination showed congestion of conjunctiva unchanged; cornea slightly clearer; pupil irregular, dilated to 4 mm. Pupillary area showed a dull reflex in day-light, resembling a lens with early sclerotic changes. No fundus reflex. Treatment continued.

Fig. 3.—Magnification 73 diameters.

August 19: Pupil 4 to 5 mm. Pain continued to be severe.

August 21: Pain was so severe that patient applied at Will's Eye Hospital, where he was assigned to Dr. Sweet's service. At this examination a floating membrane was found in the vitreous with no other fundus detail. A diagnosis of iridocyclitis with detachment of the retina was made. After a course of atropin and heat locally, inunctions and aspirin for three days, there being no relief of pain, enucleation was advised and agreed to.

On August 28, the eye was enucleated and a 14 mm. gold ball implanted. There was considerable bleeding that night, and on the following day there was much pain, discoloration and moderate swelling about the orbit. The bandage was removed, ice applied and morphin given. Extrusion of the gold ball was expected. The untoward conditions rapidly subsided, however, and the patient was able to leave the hospital with an excellent socket and free from pain. An artificial eye has since been made and worn. Patient says that he has had no discomfort to date.

PATHOLOGIC REPORT[1]

Macroscopic Examination.—The eyeball measured 25 mm. in each diameter. The uncut ball presents nothing unusual. Inter-

* Read before the Section on Ophthalmology, College of Physicians, Philadelphia, March 21, 1912.

1. From the laboratories of the Jefferson Medical College Hospital.

nally, the posterior third is occupied by a dark and solid irregular mass. The posterior surface of the mass is smooth and in approximation with the sclera over an area 20 mm. in diameter directly over the posterior pole of the eye. The anterior surface of the growth is irregularly tuberous, extends at its apex 14 mm. forward from the nerve-head to within 3 mm. of the lens. The retina is pushed forward. The vitreous chamber is filled with exudate. The lens is displaced and the anterior chamber contains considerable exudate. The cut surface of the growth is of a mottled gray color.

Microscopic Examination.—An extremely cellular mass infiltrates the choriocapillaris. The mass lies directly over the nerve-head. The lamina suprachorioid separates it from the sclera. The vitreous lamina of the chorioid together with the retina are pushed forward by it. Within its confines the chorioidal structure is entirely replaced by a more or less dense aggregation of small, spindle-shaped, pigmentiferous cells, which have no orderly arrangement. Collections of extracellular pigment are also present. The mass contains a scanty amount of fibrous connective tissue in scattered strands, a few thin-walled blood-vessels and a number of blood-spaces. At the tumor margins normal chorioid can be identified and anteriorily a portion of the retina. The optic nerve is infiltrated with scattered spindle-shaped cells, similar to those making up the tumor mass.

Diagnosis.—Small spindle-cell melanosarcoma of the chorioid.

SARCOMA OF THE CEREBELLUM IN A BOY

ALANSON W. HAWLEY, M.D., AND JOHN B. MANNING, M.D.
SEATTLE, WASH.

History.—The patient, a boy, aged 11, came under our observation in June, 1911, with the following history: Father and mother were both living and well. One child died four years ago from "ear trouble" following measles. Two other children were well. The patient had had scarlet fever at four years and measles at five years; he had not had diphtheria. He was always well except for occasional attacks of severe headache and nausea occurring suddenly and without prodromal symptoms since the attack of scarlet fever, which had become much more frequent during the last few months. Five weeks ago he left school and was up and about until three weeks ago with almost constant headache on exertion and frequent vomiting. Absolute quiet greatly diminished both these symptoms.

Examination.—Temperature was 97.4, pulse 80, respiration not accelerated. The patient was well-developed and rather poorly nourished. He lay mostly on the right side. He was mentally clear, but had slow cerebration. The skin was dry and cold. There was no retraction or rigidity of the head. The pupils were of equal size, dilated, and reacted to light; no nystagmus was present and no strabismus. Mouth: The teeth were good, but the tongue was slightly coated. Throat: Tonsils were hypertrophied with deposits in crypts. The nasopharynx was small. The face was of the adenoid type. There was good resonance throughout the chest, no alteration in breathing and no râles. The heart sounds were of good quality; no murmurs and no enlargements were detected. Liver: Dulness extended from the sixth rib to the costal margin; not palpable. Abdomen: Rigid, retracted, no tenderness, no masses made out. Spleen: Not palpable. Extremities: Knee-jerks, both lively; no Babinski, no Kernig. There was severe headache and almost constant nausea, and vomiting on turning over in bed or assuming an erect position. The urine was cloudy; phosphates present, no albumin, no sugar and no acetone. The cutaneous tuberculin reaction was negative. Vision: July 6, 1911, hazy and poor with some photophobia. Ophthalmoscopic examination showed choked disk in both eyes; right eye about plus 4.00; left eye about plus 3.00. A few scattered areas of hemorrhage were seen; the veins were distended and the arteries appeared smaller in contrast. Operation of decompression was advised but refused.

Progress.—The tonsils and adenoids were removed on request of the parents, who understood it could have no effect on the condition in the brain. There was an improvement, however, in the general health and in spite of the persistent headache, frequent nausea and vomiting, the appetite was better. Nov. 14, 1911, vision was gone. There was no choked disk, but in its place optic atrophy as shown by abnormally white disks, pupils dilated and inactive. Dec. 1, 1911, tube feedings were begun. The patient was unable to clear his throat owing to weakness, probably, and not paralysis. At times, he was quite rational, though most of the time his mental condition was much blunted. About Jan. 1, 1912, symptoms of nausea, vomiting and headache abated almost entirely. An improvement occurred in the general condition. There was no corresponding improvement in the mental condition. The pupils exhibited peculiar reactions at times, mostly widely dilated, yet often they were observed considerably contracted. The improvement was attributed to the relief from pressure due to considerable separation of the coronal suture. This separation was plainly noticeable by feeling along the line of the sutures. In six weeks all symptoms returned and persisted until death.

Post-Mortem Examination.—On exposing the brain after the dura mater had been removed the veins over the right temporal and occipital lobes were seen to be engorged. The brain was large, the convolutions flattened and consistency soft. A large amount of clear cerebrospinal fluid came away as the brain was cut free from the body. A soft, disintegrating, non-capsulated tumor, size of a very large hen's egg, was found on sectioning the cerebellum, involving the right side more than the left, probably having originated there and invaded the left portion later. Forming the roof of the fourth ventricle it had obstructed the aqueduct of Sylvius so that on section the lateral ventricles were found enormously dilated.

Pathologic Report.—Dr. O. J. West reported a small round-cell sarcoma.

Remarks.—This case is interesting on account of the lack of localizing signs. Cerebellar ataxia and hypotonus might have been observed earlier if the patient had been seen earlier, but if present they were masked by a general muscular exhaustion.

704 Leary Building.—604 Cobb Building.

A CASE OF ECTOPIC GESTATION AT FULL TERM WITH FETUS CARRIED IN ABDOMEN FOR THIRTY-FIVE YEARS

FRANK N. YEAGER, M.D., HAMILTON, PA.

Mrs. M. N., aged 72, married twice, had two children by her first husband and two miscarriages. By her second husband she had two children; the youngest died at the age of 3 years from Bright's disease, and the oldest, a daughter, is still living at the age of 43 years.

The patient was always in good health until she became pregnant the last time, and expected to be confined Aug. 2, 1877. She felt life up to the time she went into labor. Her physician being away at the time, another one was called. She had great labor pains, which seemed of the natural order. The physician gave her opiates to relieve her, and, as there was no dilatation, he left, telling them that she would not be confined at the present time. She had a violent chill the same night. She then lay some days without attendance, the pains being controlled by opium, until her family physician returned and took charge of the case. After making a vaginal examination, he made no diagnosis.

The following six months the patient suffered greatly from neuralgic pains in the right ovarian region, shooting down the thigh to the knee, which no doubt was caused by the pressure of the tumor and an ovarian cyst. During this time she had a number of attacks of metrorrhagia with bearing down pains. A number of physicians were called in consultation, but no positive diagnosis was made. Her suffering was relieved by powdered opium and capsicum. In notes made during her illness, her husband states that her abdomen had decreased in size six months after her expected confinement. From that

time on she was in fair health, menstruating somewhat irregularly until the menopause, which occurred about the usual time, giving her little trouble; in fact, suffering less than most women do at that time of life. After the menopause she was in excellent health, and able to do all kinds of work, incident to taking care of a large house, until 1896, a period of eight years, when she commenced suffering from ascites. In June of the same year, her daughter took her to Philadelphia to ascertain whether she could not be relieved by an operation to remove the tumor. The surgeon was afraid to undertake it on account of her weak condition; after staying there two weeks, she returned home without anything having been done to relieve her.

During all these years the hard mass could be readily outlined in the lower part of the abdomen. In addition to this, the patient evidently also had a large ovarian cyst, as on May 31, 1898, after a bad fright, she immediately felt as if something gave way in her abdomen, which was followed by an enormous flow of urine during the next twenty-four hours, filling three chambers during the night. (On the right side of the specimen, the remains of the cyst could be seen.) The size of the abdomen diminished perceptibly after the excessive flow of urine.

The following year the ascitic condition increased rapidly, until the abdomen and limbs were of great size, and on Jan. 12, 1899, she was tapped for the first time, 42 pounds of ascitic fluid being removed. The first four tappings were from five to ten months apart, removing 42 to 47 pounds at a time, which is about 5 to 7 gallons of fluid. After this the ascites formed more rapidly, so that she was obliged to be tapped every three months up to her death, which occurred March 13, 1912, from apoplexy. The attack came on suddenly while engaged in baking, stooping over to look into the oven, and she died four hours later without regaining consciousness.

I tapped her myself five times; she showed wonderful vitality. The day after the operation she was up and about attending to her work. During the last thirteen years of her life, she was tapped forty-seven times, the amount of fluid removed varying from 29 to 47 pounds, amounting to 1,452 pounds in all.

During the past few years, at times, she had a hemorrhagic flow from the uterus. In January, 1912, she had quite a flooding, which made me suspect that she might have a fibroid, as I felt a large mass posterior to the senile cervix. The hemorrhage ceased after administration of ergot and nux vomica.

Autopsy.—The morning after her death, I performed the autopsy. The body was somewhat emaciated, and the outlines of the tumor could be seen, because the ascitic fluid had been removed the day before by the undertaker. The tumor was removed with difficulty, because of the firm and extensive adhesions. Coils of the large intestines were adherent, but with care they were separated without tearing. The left ovary and tube were normal, showing only atrophic change due to age. The right ovary was cystic, about the size of a large orange. It was enveloped by a very tough membrane, which at one time was a large cyst. The tumor weighed 6½ pounds; it had the appearance of and felt like a hard calcified fibroid growth. It was so hard that it could not be cut with a knife. No one could tell from its appearance that it contained a fetus at full term. The atrophied uterus was firmly attached to the lower part of the tumor.

After the calcareous capsule of the tumor was removed, it was found to contain the mummified fetus of a female child at full term. The placenta, which no doubt, was attached to the intestines, must gradually have been absorbed, as nothing could be recognized which might have been the remains of that organ.

The interesting features about this remarkable case, are, first: how Nature came to the rescue depositing around the child's body a calcareous substance which acted as a preservative, besides protecting the system from septic infection; and second, that in all these years, the woman only suffered from pressure symptoms causing ascites, and with it all was able to attend to her household duties.

This case, evidently from location and advancing to full term without inconvenience to the patient, was an abdominal ectopic gestation, the impregnated ovum falling from the fimbriæ into the abdomen and there attaching itself.

The modus operandi of tapping which I carried out and which gave the patient so little pain and no discomfort, may be interesting: First I gave her 1 dram each of compound spirits of ether and aromatic spirits of ammonia in a wineglass of water. Then I had the patient, who was already prepared for bed, sit on a chair with the abdomen firmly supported with a broad bandage, the ends of which, overlapping at the back, were held by two assistants, one on each side, back of the patient. The bandage had an opening in front corresponding to the field of operation. After sterilizing the site of the puncture I froze the skin with ethyl chlorid, nicked it with a bistoury and quickly thrust in the trochar and cannula, removed the former and let the fluid flow into a large pail placed between the patient's feet. The puncture was dressed with sterilized gauze, held in place by adhesive plaster and the patient was placed in bed.

It is always well to have the patient urinate just before the operation, as there is less danger of injury to the bladder.

A VIRULENT CASE OF EPIDEMIC CEREBROSPINAL MENINGITIS; FOUR HUNDRED AND TWENTY CUBIC CENTIMETERS OF SERUM ADMINISTERED; RECOVERY

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City Health Officer

The following case of epidemic cerebrospinal meningitis, which occurred in Shreveport during the late outbreak of the disease, is remarkable for the unusual amount of serum administered and the complete recovery in spite of the almost hopeless condition of the patient at several different times during the progress of the disease.

C. P., aged 17, school boy, had a severe chill on the night of February 27. I was called in on the morning of the 28th, when he was suffering from severe headache (frontal), backache and persistent vomiting. I considered the case suspicious of meningitis, though, in the absence of rigidity, I did not feel justified in making a puncture. I saw him, again, early in the afternoon, when I noted undoubted evidences of the disease—the pain in the head, which stubbornly refused to be relieved in spite of large doses of morphin and thorough purgation, rigidity of the neck, Kernig's sign, together with partial delirium. A spinal puncture was made, when the fluid literally spurted out, so great was the tension; we removed about 90 c.c. of very cloudy cerebrospinal fluid and injected 30 c.c. of antimeningitis serum; some relief was immediate, owing, no doubt, to reduction of tension. The fluid contained a large amount of pus which, when stained, showed the Gram-negative intracellular diplococci in great abundance. At noon, on the 29th, the injection was repeated and again on the morning of March 1. Although, after the first dose, we noted improvement, this was not the case after the second and third: in fact, the delirium increased; the patient was unconscious and the pulse and temperature went higher. Early on the morning of March 2, I was called and found the patient practically *in extremis*—deep coma, shallow breathing, cyanosed and a rapid pulse, which could not be counted accurately but which was in the neighborhood of 160 per minute. Stimulants, hypodermically, produced very little improvement; after working with him for about two hours and when we had about despaired, the idea of oxygen occurred to me; we had Mr. Bradley of Shreveport bring out one of his oxygen generators; in ten minutes improvement was noticeable and in an hour's time the patient's condition was fully as good as it was the day previously. We did not repeat the serum on that day, the fourth of the disease, but, on the fifth day, the symptoms being more marked, we gave the fourth 30 c.c.; the fluid being still cloudy and the tension still great, we gave the fifth dose on the sixth day; on the next day, we made another puncture and finding the fluid still cloudy, we gave him another 30 c.c.;

this time I took another specimen of fluid, which I found to contain the specific organism, in spite of the fact that he had received 180 c.c. of antimeningitic serum. But we refused to rest content with this and, on the following day, after withdrawing about 75 c.c. of cerebrospinal fluid, we administered 60 c.c. of the serum, this making a total of 240 c.c. The reaction from this was rather severe, the delirium increasing and the pulse and temperature going higher, the former varying from 140 to 160 and the latter in the neighborhood of 103 F. The patient was still rigid and hypersensitive and we were hesitating as to what to do next. After informing the family of the serious condition, from which we had little hope of a favorable outcome, we decided on further consultation, the result of which was the administration of 180 c.c. additional serum, in three doses, within a period of thirty hours, the canal being drained as thoroughly as practicable before injecting each dose. For the first twenty-four hours after this was completed, there was no noticeable improvement. Tincture aconite was administered in small doses, frequently, and the effects were carefully watched. Oxygen was also used at intervals ever since it was first brought into the case. Nourishment was forced, though with great difficulty. After another twenty-four hours, there was some improvement; this continued, gradually but steadily, and, on March 27 — one month after onset — the patient was discharged as cured, considerably emaciated (having lost about 40 pounds), but with no sequelæ. (Consultants in above case were: first, Dr. S. Y. Alexander, who saw the case with me throughout the entire illness, and, second, Dr. W. K. Sutherlin, who holds the record for having administered probably the largest amount of antidiphtheritic serum in one case, with recovery.)

This patient, as will be seen, received 420 c.c. antimeningitic serum; it would be interesting to know if anyone has ever given a larger amount than this. Whether his recovery would have been obtained without the last heroic doses is a debatable question, but we feel that his complete recovery (without sequelæ) would not have occurred had we stopped at 240 c.c.

628 Stoner Avenue.

A DISTURBING FACTOR IN LIEBEN'S AND IN GUNNING'S TEST FOR ACETONE IN URINE*

JACOB ROSENBLOOM, M.D., PH.D., NEW YORK

Lately, while testing a urine for acetone by means of Lieben's and also Gunning's test, I found both tests to be negative when applied to the urine direct, but positive when applied to the distillate. Naturally, one would think that some substance was present in the urine interfering with the formation of iodoform, the reaction on which the above-mentioned tests are based.

This urine gave a marked reaction for protein and it was found that it was the presence of this substance which interfered with the above tests on account of the fact that after removal of the protein by means of dilute acetic acid, the urine responded to Lieben's and to Gunning's test.[1]

It is well recognized that only the distillate of the acidified urine should be used for acetone tests, but many workers often apply Lieben's test to the urine direct and if it is found to be negative no further inquiry is made; but if a positive reaction is obtained, the urine is distilled and the test applied to the distillate so as to eliminate the other substances present in the urine that react with an alkaline iodid to form iodoform.

Bardach,[2] several years ago, noticed that the formation of typical iodoform crystals from iodopotassium iodid and acetone in an alkalin solution may be prevented by the presence of protein. He showed that instead of the characteristic hexagonal platelets or stellar masses of iodoform forming, fine yellow needles, apparently of some other substance, appeared. He found that the following substances had the power to produce this change in the reaction: acidalbumin, proto-albumoses, peptones, phytovitellin, casein, yeast nuclein, hemoglobin, tendomucoid, gelatin, and the following protein-containing materials: pancreatin, sperm, blood, sputum, normal urine and albuminous urine. Seaman and Gies[3] continued the work and have shown that a large number of additional proteins and protein-containing materials also show the positive results that were obtained by Bardach with the above-mentioned substances.

There is no doubt in the case of the urine examined by myself that the presence of the protein in the urine interfered with the formation of iodoform and the deposit of iodoform crystals. This experience emphasizes the necessity of using the distillate from a urine when testing for acetone by Lieben's or by Gunning's test.

In conclusion, I would like to call attention to a test for acetone which has appeared lately and with which I have obtained very satisfactory results; it is the Frommer[4] test and is based on the fact that acetone reacts with salicylaldehyd to form dioxydibenzoylacetone as the following equations show:

EQUATION 1

$$C_6H_4\begin{matrix}OH\\CHO\end{matrix} + CH_3.CO.CH_3 = C_6H_4\begin{matrix}OH\\CH:CH.CO.CH_3\end{matrix} + H_2O$$

EQUATION 2

$$C_6H_4\begin{matrix}OH\\CH:CH.CO.CH_3\end{matrix} + C_6H_4\begin{matrix}OH\\CHO\end{matrix} = C_6H_4\begin{matrix}OH\\CH:CH.CO.CH=CH.C_6H_4.OH\end{matrix} + H_2O$$

This test may be applied to the urine direct and it also does not react with diacetic acid if the heating is not carried too high. The test is performed as follows: 10 c.c. of urine are rendered strongly alkaline with potassium hydroxid; 10 to 12 drops of a 10 per cent. solution of salicylaldehyd in absolute alcohol are added and the mixture warmed to about 70 C. In the presence of acetone, the fluid becomes yellow, then red, later purplish red and on long standing, dark red. In the absence of acetone the color of the urine is practically unchanged.

The test may also be carried out by the following method: about 10 c.c. of the urine are treated with about 1 gm. of sodium hydroxid in substance and without waiting for it to dissolve 10 or 12 drops of the salicylaldehyd solution are added. The mixture is heated to 70 C. In the presence of acetone a marked purple red color results at the zone of contact with the alkali. Frommer asserts that this test can indicate the presence of 0.000001 gm. acetone in 8 c.c. of water and I have found that the presence of protein in the urine does not interfere with this test for acetone in distinction from the tests of Lieben and Gunning.

Seventy-Sixth Street and Park Avenue.

* From the Chemical Laboratory of the German Hospital and Dispensary, New York.

1. This urine gave no reaction for diacetic acid.
2. Bardach: Ztschr. f. physiol. Chem., 1908, liv, 355.
3. Seaman and Gies: Proc. Soc. Exper. Biol. and Med., 1907-08, v, 125.
4. Berl. klin. Wchnschr., 1905, xlii, 1008.

SYPHILIS COMPLICATED WITH UNCINARIASIS

THOMAS W. DORSETT, M.D., WILLACOOCHEE, GA.

The patient, a young man, aged 20, came under my observation shortly after Christmas, with all the classical symptoms of syphilis, including one of the largest chancres I ever saw. I gave, intravenously, 0.6 gm. salvarsan. There was very little reaction from the injection and the patient was up in twenty-four hours feeling as well as usual. He and I were very hopeful and expected daily to see some sign of improvement. The expected improvement, however, did not develop; in fact, the symptoms gradually became worse. The chancre grew larger and became very foul. On the tenth day, I began to realize that I had to do something more for my patient; consequently, knowing that he had

what I considered a mild infection of hookworms, I gave him the usual treatment, which brought forth a large number of worms. He immediately began to improve and on the fourth day said he felt like a different person. The chancre quickly disappeared, as did all the other symptoms. One week later I gave him another treatment for the worms and he expelled a very few more. From this time on he rapidly improved and at the end of ten days he was as well as he ever was.

Did the hookworm infection retard the effects of the salvarsan? My suggestion is that the toxins produced by the worms either retarded or counteracted the effect of the salvarsan. I really think that the toxins only retarded the action of the salvarsan and that in a short time the salvarsan would have produced its effects.

SPIROCHETES IN THE MOUTH*

A. A. THIBAUDEAU, M.B., BUFFALO, N. Y.

In the routine examination of smears from the mouth, as carried out by students in the class-room, a considerable number were found, which, when stained by the Giemsa method, showed spirochetes morphologically resembling *Spirochæta pallida*. As some observers have considered it possible to make a diagnosis of syphilis by the finding of *Spirochæta pallida* in smears from suspicious sores in the mouth and pharynx, it was thought desirable to examine the smears from a number of normal mouths.

Smears were accordingly made from apparently healthy mouths, using the deposit at the junction of the gums with the teeth, and from the root of the tongue. After fixation in absolute alcohol they were stained by Giemsa's rapid method. Smears from each case were also stained by Loeffler's methylene-blue or an aqueous solution of gentian-violet.

Three main types of spirochetes were found:

1. The large *Spirochæta buccalis* with long flat curves, which is much thicker and wider than the other spiral forms found in the mouth, and which has fewer turns.

2. A moderate-sized spirochete, probably the "medium form" of *Spirochæta dentium* described by Hoffmann and Prowazek.[1] This organism stains a very faint purple by Giemsa. The coils of this spirochete, as found in mouth smears, are not so sharp or so regular as those of *Spirochæta pallida*, and the organism is thicker.

3. A small, very delicate spirochete, with sharp coils fairly closely applied was the form that most resembled *Spirochæta pallida*—probably the *Spirochæta microdentium* of Noguchi.[2]

This organism very frequently exhibited irregularities in the arrangement of the coils, seldom seen in *Spirochæta pallida*, but specimens were found in which the coils were regular throughout the organism. The spirochete, stained by Giemsa's rapid method, showed a coloration from a rose-red to a light purple, depending apparently on the degree of heat used and the length of time that it was exposed to the stain. Typical organisms of this type showed pointed ends. It stained but poorly with Loeffler's methylene-blue, and in about 30 per cent. of the cases, where present, could not be found in the control smears stained by this method. It is to be noted that while these organisms may not present all the characteristics of a typical *Spirochæta pallida*, there are usually in stained smears from definite syphilitic lesions, and in which typical *Spirochæta pallida* may be present, numbers of spirochetes, undoubtedly *Spirochæta pallida*, which are not typical in every respect, and which could not be distinguished in stained smears from this type of mouth spirochete.

I have examined smears from 149 mouths; in sixty-one, or 40.9 per cent. of these, spirochetes of the last type, which might be taken for *Spirochæta pallida*, have been found. In none of these cases did inquiry bring out a history of syphilitic infection. The possibility of these organisms causing a mistake in diagnosis in a non-syphilitic ulceration or other non-syphilitic lesion of the mouth seems self-evident.

It has long been known that the differentiation of *Spirochæta pallida* from some of the mouth spirals is extremely difficult and even at times impossible. My investigation has shown that spirochetes closely resembling *Spirochæta pallida* were found in as many as 41 per cent. of normal mouths examined.

24 High Street.

* From the Laboratory of Bacteriology, University of Buffalo.
* Read at the Annual Meeting of the American Association of Pathologists and Bacteriologists, April 4-5, 1912.

1. Hoffmann and Prowazek: Centralbl. f. Bakteriol., 1906, xli, 817.
2. Noguchi: Jour. Exper. Med., 1912, xv, 81.

A SIMPLE REFRIGERATOR FOR LABORATORY WORKERS

LOYD OSCAR THOMPSON, PH.B., M.D., LITTLE ROCK, ARK.
City Bacteriologist; Pathologist to St. Vincent's Hospital

Many physicians who do their own laboratory work, and even many of the smaller clinical laboratories, do not have refrigerator facilities, and it is often a problem to keep certain substances at a low temperature. This problem was solved recently in the Little Rock City Laboratory, when the iceman failed to fill the refrigerator, by utilizing a vacuum bottle. We wanted to keep some guinea-pig blood at a low temperature over night to collect the serum for the Wassermann reaction. The vacuum bottle was filled about one-half full with ice-water and the test-tube containing the blood was lowered into it and the cork inserted. In the morning the temperature was 10 C., and the serum had completely separated.

This simple expedient may be used as above, for keeping complement, corpuscle suspension, antigen and patients' serum for the Wassermann reaction; for keeping urine, small samples of milk, etc.

606 State Bank Building.

Therapeutics

PULMONARY TUBERCULOSIS

In the treatment of this disease the following important points should not be forgotten. It is not sufficient to order fresh air, rest, proper diet and such medication as needed; more must be done. So much has been accomplished by fresh air, rest and food that the physician is too likely not to treat the patient as though he were seriously ill. While daily attention is not needed, unless the patient has considerable fever, a weekly study of his case and his symptoms and his signs are essential to the best treatment for him and for the promotion of as rapid recovery as possible, if he is to recover. To repeat, the diagnosis is not the only essential to the successful treatment of pulmonary tuberculosis. The patient must be studied weekly; physical examination must be made weekly to know exactly what is being accomplished by the treatment, or to ascertain why the treatment is not producing results. Toward this end the following items are suggestive, "lest one forget."

1. The cause of the patient's temperature should be sought. It may not be from the tubercle bacillus or the active tuberculous process alone. It may be from a coincident streptococcic infection, or the so-called double infection with a purulent bronchial exudate. There may be a pathologic condition of the throat and nose; there may be a digestive disturbance; there may be a genito-urinary disturbance; in fact, all other causes of high temperature must be eliminated before the decision is made that it is due to a more or less acute tuberculous process.

2. Continuous loss of weight may mean that the food is not sufficient, that the food is not properly digested or that there is some other source of loss to the individual than the tuberculous process. If the patient is a woman,

the cause may be too profuse menstrual discharge, or some vagino-uterine catarrh, or some serious pelvic disturbance. There may be a purulent discharge from an ear or from a kidney.

3. The digestion should be carefully studied. Gastritis, dyspepsia, duodenal inflammation, liver disturbance with possible slight jaundice, constipation, diarrhea, chronic appendicitis or any chronic abdominal or pelvic pain with the necessary reflex disturbances to digestion must all be noted and eliminated if possible.

4. All of the functions should be studied and, if found wrong, treated. This includes not only the digestion and the bowel movements, but a study of the twenty-four hours' urine, a study of the secreting ability of the skin and of the regularity and type of the menstrual periods. If the skin is dry, massage, hot baths, and oil or fat inunctions should all be inaugurated. If there is too profuse perspiration causing prostration, alcohol rubs should be given. An albuminuria should be noted, and treated, if present.

5. The cough and expectoration should be studied; whether the cough is productive or unproductive; whether there is a dry, tickling cough which may be due to lingual tonsil inflammation; whether there is laryngeal irritation, tracheal inflammation, pleural pains, or other reflexes, all should be noted in relation to whether or not the patient need have the amount of cough he does have. If the expectoration is profuse and the cough is consequently necessary and productive, some codein and ammonium chlorid combination (not sweet) or terpin hydrate, are advisable. An iodid should rarely be given in tuberculosis, as it may be as much of a stimulant to tuberculous processes that are quiescent as is a small dose of tuberculin. The following is a suggestion for the codein mixture:

℞	Gm.	or	c.c.
Codeinæ sulphatis.....	20		gr. iv
Ammonii chloridi	5	or	℥i
Syrupi acidi citrici.	25		fl. ℥i
Aquæ q. s.....ad	100		ad. fl. ℥iv

M. et Sig.: A teaspoonful, in water, every two or three hours.

Or:

℞	Gm.	or	c.c.
Terpini hydratis	5	or	gr. lxxv
Fac capsulas siccas.....	20		

Sig.: A capsule, with water, every four hours.

An inflamed lingual tonsil which is causing a dry, tickling cough should be treated locally by swabbing with boroglycerid. The throat should be carefully studied and treated with such gargles and sprays as seem indicated. Irritations in the nose may be a cause of reflex cough. Consequently the nostrils, throat and also ears should be studied and receive such treatment as is indicated. The glands in the thorax may be enlarged and press on nerves and cause reflex cough. Such glands may be discovered by *x*-ray pictures. Enlarged glands in the neck should be carefully watched and the decision made whether they require extirpation, whether they improve with the general improvement of the patient, or whether *x*-ray treatment is or is not advisable.

6. The circulation should be carefully studied. A heart may be very rapid, not from the tuberculous process, but from a hypersecreting thyroid gland; or there may be pain that causes the circulation to be rapid; or there may be nervous excitations; the patient may be troubled by his friends and his family. Such patients should be more or less quietly isolated and see no one but the nurse or the immediate family, and should not be disturbed with troublesome household or business cares. Tuberculous patients should be protected from disturbance as much as a convalescing typhoid patient. The heart may be insufficient and need a cardiac tonic.

The blood-pressure should be noted, and though perhaps it may not need treatment, it should be watched. A high blood-pressure may be a cause of pulmonary bleeding. On the other hand, a low blood-pressure from insufficient force of the heart may require digitalis.

7. Laryngeal tuberculosis, when properly treated, is not nearly so hopeless in prognosis as has been thought. In other words, a laryngeal tuberculosis should not be neglected, but should receive immediate and constant expert treatment.

8. If a patient does not soon show improvement, the advisability of using tuberculin in minute doses should be seriously considered. To use tuberculin properly as a curative agent, however, experience is necessary, and no physician should use tuberculin for this purpose until he has studied the method and reactions at some sanatorium, hospital or dispensary where tuberculin is frequently used.

INTESTINAL HORMONE: HORMONAL

In this note of warning it is not necessary to go into the chemistry or activities of hormones. Suffice it to say that an intestinal hormone is offered for therapeutic use with the object of causing intestinal peristalsis. Not only is it declared to act successfully in paresis of the intestine, which so frequently occurs after abdominal operations and in serious conditions, as a tympanites in pneumonia or other serious infections, but it is also urged as a cure in obstinate chronic constipation. It occurs in two forms: for injection intravenously, and for injection subcutaneously.

This substance is prepared most advantageously from the spleen. Its activity is perhaps, and probably, mostly due to cholin, which is a toxin which is formed more or less in the intestine, and which is a peristaltic stimulant. If, as seems probable, the cholin is the active principle of this hormone prepared from the spleen, it seems unwise and unscientific to administer the mixture of substances with which it is combined. In other words, if cholin is what does this sort of therapeutic work, cholin should be prepared and administered alone.

It is suggested that before administering this preparation, a large dose of castor oil be given to lubricate and soften any dried or retained fecal matter that may be in the intestines. This is undoubtedly good advice.

As a matter of fact, some recent clinical investigations do not seem to show that this preparation is valuable in the cure of chronic constipation. In the next place, it is a more or less dangerous preparation to use. Intravenously it seems hardly excusable—certainly never excusable in chronic constipation. Used intramuscularly its success is not sufficient to warrant injection of such mixed toxins into the tissues.

It has been positively noted that hormonal will cause vasodilatation, and serious symptoms of collapse have been produced. In other words, in serious shock conditions or obstructive conditions of the intestines, with paresis of the intestines, when hormonal is supposed to be indicated, more or less low blood-pressure is present, and the injection intravenously of hormonal is likely to increase the shock.

In a recent communication Zuelzer, the originator of hormonal, explains the symptoms of collapse as due to an impurity consisting of albumose which he will have eliminated from subsequent samples of the preparation.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[For other information see second page following reading matter]

SATURDAY, AUGUST 10, 1912

IS CANCER OF INFECTIOUS NATURE?

A few years ago much was written about the infectious or parasitic nature of cancer, and intracellular and other bodies were described which some regarded as probably the actual cause of cancer. The failure to cultivate these bodies, coupled with the demonstration that they in large measure most likely are products of degenerative changes in the cells, as well as other reasons, soon led to the general abandonment of the idea that such bodies have any etiologic significance, and for a time we have heard comparatively little about the parasitic nature of malignant tumors. Now, however, voices are being raised again in favor of the parasitic theory, and the reasons now advanced in support of this view are seemingly more substantial because based on experimental observations on animals and plants. There is no doubt but that the investigation of cancer entered on a much more promising phase when it began to concern itself less with the purely morphologic study of human tumors and more and more with the experimental study of transplantable tumors. It is out of the question to discuss all the facts bearing on the possible infectious nature of cancer that have been brought to light by the experiments with transferable tumors, and therefore attention will be confined to what at present appear to be the most significant results in favor of the infectious hypothesis.

Of all the results of the experiments with transplantable tumors in animals the most noteworthy from the point of view of infection are those obtained by Peyton Rous of New York with a sarcomatous tumor of the hen. This investigator has shown conclusively that sarcoma may be produced by the injection of fluid obtained from the tumor after it has been filtered free from every trace of tumor cells. Quite naturally this result is being interpreted as due to a living virus so small that it passes through rather coarse filters, and this interpretation may be accepted as the most reasonable withal, even though it perhaps cannot be denied that it is within the range of possibility that it may concern some non-living substance produced by the cells in the animal body. At all events, this is so far the only instance in which it has been shown beyond any doubt that a growth corresponding in every characteristic to a malignant tumor can be propagated by cell-free material, except possibly the remarkable thyroid proliferations that occur in epidemics in fish in hatcheries, which are being studied by Gaylord of Buffalo and others, and concerning the real nature of which, whether cancerous or not, there is some difference of opinion. While it would not be warranted yet to conclude that all cancers are of infectious nature, these observations certainly seem strongly and directly to favor that view.

Recently the view that cancers are infectious has received support from another source also, namely, plant pathology. It is urged by Erwin F. Smith of the Bureau of Plant Industry in the United States Department of Agriculture, that the disease of plants known as crown-gall is in truth a plant cancer. The growth is cellular and infiltrative in character; it sends out long strands of new tissue in the course of which secondary growths may develop of the same structure as the parent growth so that when the primary growth is in the stem, secondary growths in the leaf do not have the structure of the leaf but of the stem. Discontinuous metastasis does not seem to occur, metastatic growths being connected with the primary growth by strands of new tissue, and Smith points out that on account of the absence in plants of a rapidly circulating stream, discontinuous metastasis can hardly be expected to take place. The disease is caused by a definite bacterium, *Bacterium tumefaciens*, discovered by Smith, which occurs in the cells of the growths and which produces typical crown-galls when inoculated into plants (daisy).[1] Smith holds that this bacterium stimulates the cells to rapid and indefinite proliferation, and that the facts discovered in regard to crown-gall or plant cancer have a direct bearing on human cancer. Jensen also holds that a similar growth in the sugar-beet shows strict analogy in structure and development to human and animal cancer.

If it becomes necessary to adopt the view advanced by Smith that the crown-gall he has studied with such success is a true cancer, then to him will belong the credit of having discovered first the precise cause of a cancerous growth. On account of the absence of complete analogy between the structure of plants and that of animals, the question whether crown-gall is a cancer or not in the ordinary sense of the word would seem to be a difficult one to settle at this time; but Smith makes out a very strong case in favor of his view, and we must acknowledge that the view of the infectious cause of cancer in general is strengthened by his work.

The cause of animal cancer still awaits solution, but the discoveries of Rous in regard to his hen sarcoma and of Smith with respect to so-called plant cancer warrant the adoption of the idea that cancer is infectious, as a tentative or working hypothesis to stimulate and guide investigation of this difficult problem.

1. Smith and Townsend: Bull. 213, Bureau of Plant Industry, U. S. Dept. of Agricul., 1911. Smith, Brown and McCulloch: Bull. 255. Smith: Proc. Path. Soc. Phil., 1912, xiv, 169, Science, Feb. 2, 1912; abstr. in THE JOURNAL A. M. A., March 23, 1912, p. 872.

ANGLO-AMERICAN EXPEDITION TO PIKE'S PEAK

The physiology of altitude has long had an interest not only because of its evident bearing on the sports of mountain climbing, ballooning (and we may now add aeroplane flights), but also in relation to the reputed therapeutic effects associated with a sojourn at high mountain resorts. Mountain-sickness has been subjected to rigorous experimental analysis by a number of well-known physiologists without reaching a complete accord regarding the explanation of the phenomena. Most of the investigations have been undertaken in the Swiss Alps where the facilities for experiment and the convenient availability of suitable laboratory equipment have, until very recently, been far from satisfactory. It is strange that the unusual opportunity offered by the very accessible Pike's Peak, reaching an altitude of 14,109 feet above sea-level with a barometric pressure of only 18 inches at the summit, has never been adequately appreciated. During the summer of 1911 an Anglo-American expedition, consisting of Drs. Haldane and Douglass of the University of Oxford, Dr. Henderson of Yale University, and Dr. Schneider of Colorado College, spent some time in attempting to discover to what extent and by what means adaptation takes place to low barometric pressure and consequent deficiency in the partial pressure of oxygen in the air. A preliminary report of their observations on the summit of Pike's Peak has just been made.[1] The more immediate effects after arrival were blueness of the face and lips, nausea, intestinal disturbance, headache, fainting in some persons, and periodic breathing, besides great hyperpnea on exertion or holding the breath a few seconds. With the exception of the latter these symptoms disappeared after two or three days when acclimatization had begun to appear. There has been much dispute as to the real cause of these phenomena; but these scientists state that all of the symptoms (apart from the effects of bright light) observed by them in the large number of persons who ascended the peak are referable directly or indirectly to want of oxygen, produced by the diminished pressure of oxygen in the air. The respiratory exchange remained about normal. There appeared to be very little change in the rate of circulation on Pike's Peak after acclimatization. Pulse and blood-pressure were little affected, though in most cases there was a slight increase in the pulse-rate. The percentage of hemoglobin in the blood increased for several weeks on the summit. The number of red corpuscles increased parallel with the hemoglobin, and the percentage volume of the corpuscles increased in proportion to the percentage of hemoglobin. During the first three weeks there was a large increase in the total amount of hemoglobin. On descent from Pike's Peak the percentage of hemoglobin decreased much more rapidly than the total amount present. It required about four weeks for the excess of hemoglobin and blood-volume to disappear.

Perhaps the most striking feature of the observations of the Anglo-American expedition of 1911 was what its members interpret as an adaptation whereby the arterial oxygen pressure was maintained at a higher level than one would expect from the diminished alveolar oxygen tension. They ascribe this to a progressive increase in the activity of the alveolar epithelium in secreting oxygen inward. According to these physiologists acclimatization to high altitudes is due mainly to the increased secretory activity of the alveolar epithelium, but partly also to the increased lung ventilation, and to a lesser extent to the increased hemoglobin content of the blood. The acclimatization takes some days to develop. They add that during rapid ascents in balloons or aeroplanes it would not have time to develop, and this explains the contrast between the experience of balloonists, etc., and that of mountaineers who ascend gradually.

The view that the pulmonary epithelium may take an active part in secreting oxygen into the blood instead of acting merely as a passive membrane in the process of gaseous exchange is by no means new; but it has never received very active support from the majority of physiologists. The fact that a group of competent investigators advocate anew the active secretory function of the lungs will make the detailed publication of their evidence awaited with great interest. Meanwhile the hypothesis gives some tangible suggestion as to what actually may happen when an individual becomes adjusted to the atmospheric environment of high altitudes.

1. Douglass, C. G., Haldane, J. S., Henderson, Y., and Schneider, E. C.: The Physiologic Effects of Low Atmospheric Pressures, as Observed on Pike's Peak, Colorado, Proc. Roy. Soc. London (B), lxxxv, 65.

McCARRISON'S RESEARCHES ON GOITER

Although it must be frankly stated that the cause of goiter is unknown, the old belief in the relation of this disease to drinking-water still has many facts to commend it. The etiologic factor may be associated with the chemical composition of the water or related to its microbiology. It has been difficult to connect the causative agent of goiter definitely with either of these features. While there is much to support the idea of a living agent as the responsible cause of the disorder of the thyroid, it is not easy to understand, on this hypothesis, why the gland eventually returns to a condition of equilibrium when the individual leaves the harmful region. Are we to assume that the destruction of the germs can follow so readily when there is no longer any source of infection? Few infections are thus limited to locality or fail to be progressive and self-propagating.

The existence of a living infectious agent in the etiology of endemic goiter has been vigorously maintained by Captain McCarrison of the Indian Medical Service.[1] Extensive observations in some of the goitrous

1. McCarrison, R.: Quart. Jour. Med., 1909, ii, 279; Ann. Trop. Med. and Parasitol., 1911, v, 1; Proc. Roy. Soc. London (B), 1911, lxxxiii, 335.

regions of India have led him to the belief that suspended matter in the drinking-waters which give rise to goiter there contains the causal agent. It can be removed by filtration. The filtered waters are innocuous, but administration of the suspended matter leads to goiter in man. Inasmuch as boiling destroys the goiter-producing powers of the water, it is assumed that the etiologic factor is an organism. McCarrison believes that the infecting agent exists in the intestinal tract and that a plentiful amebic infection was present in this situation in the vast majority of all cases of goiter where he investigated the disease.

Theories of intestinal toxemia as the causal factor in all sorts of organic disease are far too current in modern medicine to be accepted with more than extreme skepticism. Whatever one may think of his explanations, McCarrison's protocols and photographs leave little doubt that he has produced goiter experimentally in man by the administration of matter separated from a goiter-producing water by means of a Berkefeld filter. Reasoning in familiar channels, McCarrison has lately prepared vaccines from the bacillary growths cultivated from intestinal material from the feces of goitrous patients and has employed them in the treatment of recent cases of goiter.[2] The results are reported to be most encouraging. In several cases the thyroid swelling disappeared after two or three inoculations and the patients have found the treatment agreeable. There is no effect in cases of long-standing goiter, that is, cases in which the main part of the swelling is made up of adenomas or of cysts; the value of the treatment is confined exclusively to cases of recent parenchymatous goiter.

So much for facts. They are derived from clinical reports and can be accepted as correct observations. McCarrison contends further that the results of the vaccine treatment confirm his view of the microbiotic etiology of goiter. There is no evidence that a specific organism of the disease has been isolated or that it is present in the vaccines. To this McCarrison would make reply that the thyroid is markedly influenced by the nature of the bacterial flora of the intestine and is normally called on to combat many toxic substances which find their way into the blood-stream from the alimentary tract. When the thyroid is relieved of part of its normal work, the different vaccines are assumed to enable the gland to destroy the specific toxin of goiter without continuing in a state of hypertrophy from overwork.

All this is of interest and value, but not conclusive. We must be on our guard in accepting any hasty generalizations, particularly in the field of vaccine therapy which has so often proved illusive in the past. Hypothesis is of value in stimulating research. The real cause of goiter is still unknown.

2. McCarrison, R.: The Vaccine Treatment of Simple Goiter, Proc. Roy. Soc. Med., 1912, v, No. 4.

VACCINE AND SERUM THERAPY IN THE COMPLICATIONS OF OTITIS MEDIA

In this newest application of vaccine and serum therapy, the English are among the earliest in the field with reports. An important report is that of Turner[1] who describes in detail a series of five cases in which a polyvalent antistreptococcus serum was used subsequent to the ordinary surgical operation. In each of these cases there was involvement of the sigmoid sinus or the meninges, and in each case the streptococcic nature of the infection was established by bacteriologic examination. In three cases in which serum treatment was given early, recovery occurred. In the two fatal cases the postmortem showed that the disease must have progressed widely before the serum was given, and in one of these cases infection with the *Bacillus aerogenes* also was found to have taken place.

In four cases in which autogenous vaccines were used, there were three recoveries. In the first of these cases, in which a sigmoid thrombosis existed, the *Bacillus proteus* was isolated at the time of operation. On treatment with a vaccine of this organism, the patient improved rapidly, the temperature remaining down. When the vaccine was stopped, the temperature immediately rose and exacerbation of the condition developed. The vaccine treatment was resumed and the case went on to a complete recovery. The author concludes that in every case there should be no hesitation in employing one or the other of these methods of treatment.

In a general discussion of the treatment of streptococcus infections by vaccine and serum therapy, Ball[2] includes three cases of the nature of those of Turner. In two cases of sinus and labyrinthine involvement, vaccine treatment after operation was followed by rapid fall of temperature and prompt recovery. In a third fatal case, systemic infection had occurred previous to the injection of the vaccine. Ball suggests that with earlier beginning of the treatment a favorable response possibly might have resulted here also. It is the opinion of Ball that the highest value of this therapy lies in its prevention of systemic infection in those cases which are on the borderline. In a recent report by Rosenow[3] two cases of sinus thrombosis and meningitis associated with streptococci in otitis media are described in which very good results followed vaccine and serum treatment. In one instance administration of autogenous vaccine was followed by prompt alleviation of symptoms and the subsequent injection of antistreptococcus serum produced or was followed by further favorable developments.

The number of cases so far reported is indeed small, but it would seem that the results are such as to make it advisable to adopt this treatment in practically all cases of complications in middle ear disease. Surely the work so far done in this field fully warrants further efforts in the same direction.

1. Turner: Jour. Laryngol., Rhinol. and Otol., 1912, xxvii, 22.
2. Ball: Lancet, London, 1912, i, 1515.
3. Rosenow: Read before Illinois State Medical Society, May, 1912.

While there is much of suggestion and value in reports of individual cases which have been watched closely and studied scientifically, including in the cases under consideration the establishment of an etiologic diagnosis, examination of the blood and comparisons of the specific opsonic indices before and after treatment, the final decision as to the real value of the treatment can be made only on the basis of statistics of a large number of cases under this treatment as compared with others in which a different treatment was followed.

AN UNWISE ECONOMY

It has become a habit with certain congressmen, desiring to secure the passage of a measure without publicity and discussion, to insert it in the form of an amendment or "rider" on an appropriation bill. By means of this legislative trick, "jokers" of varying degrees of importance, the passage of which would be possible in no other way, are frequently pushed through Congress. An interesting and peculiarly stupid instance of such action has recently occurred. During the consideration of the appropriation bill for the District of Columbia, the following section was slipped into it:

"No money appropriated by this *or any other act* shall be expended for membership fees or dues of any officer or employee of the United States or of the District of Columbia in any society or association or for expenses of attendance of any person at any meeting or convention of members of any society or association, unless such fees, dues, or expenses are authorized to be paid by specific appropriations for such purposes or are provided for in express terms in some general appropriation."

This sweeping provision, if allowed to remain on the statute-books, will not only have most unfortunate results in our own country, but will seriously affect the scientific standing of the United States throughout the world. For years past, officers of the government service have been accustomed to attend national and international scientific meetings to present reports of work done or to secure cooperation between government services and scientific, philanthropic and other organizations. Government representatives have borne an important part in building up the American Public Health Association, the American Association for the Advancement of Science and other scientific bodies whose work has been of the greatest public benefit. In our international relations, notifications are constantly being received through diplomatic channels asking the cooperation of the United States in international congresses, covering all branches of social and scientific questions, sanitation and public health of the utmost importance not only to scientific men but to the welfare of nations.

The adoption of the section quoted above practically prohibits any officer or employee of the national government from attending any scientific body or scientific meeting. Government employees, especially in scientific lines, are notoriously ill paid and cannot be expected to attend such meetings at their own expense. The provision for specific appropriation does not relieve the situation, as it is impossible to determine a year in advance what occasion may arise for attendance on scientific bodies. The result of the passage of this section, therefore, will be that the United States government will cease to participate hereafter in the congresses and scientific gatherings which have exercised so stimulating an influence on modern scientific problems and progress. It will be interesting to know the reason of the introduction of this measure. Certainly when it was adopted the members of Congress did not realize that they were practically barring the government services from participating in scientific gatherings. Whatever the reason for such blundering stupidity, it is to be hoped that it will be speedily remedied at the first opportunity by the repeal of this section.

THE SO-CALLED FUNCTIONAL TESTS FOR ORGANIC DISABILITY

Much ingenuity has been exhibited and numerous chemical tests have been devised in recent years to meet the demand for methods of detecting defective functioning of various organs in the body. The liver, for example, is a gland endowed with a multiplicity of activities of supreme importance for the welfare of the individual. Certain impairments of its normal processes can be detected with comparative ease, especially when they have advanced to the point of becoming prominent defects. Cirrhosis of the liver, in an advanced state, is not particularly difficult to recognize; but the incipient stages of this and various other pathologic conditions may call for the closest diagnostic scrutiny before they reveal themselves. Hence comes the demand for clear-cut tests to indicate these abnormalities in their early stages with specific accuracy.

We are prompted to refer to this matter in view of a recent discussion of certain aspects of the subject by Dr. Nellis B. Foster of the New York Hospital.[1] His contribution, which bears primarily on the functional tests for hepatic cirrhosis, deserves attention because it offers a sort of sane criticism which is all too frequently lacking in such clinical literature. Dr. Foster clearly recognizes that the fundamental question involved in securing a function test for any organ depends in good measure on the discovery of some activity which is peculiar solely to the organ involved. In many instances this is most difficult to accomplish; but further than this, the incipient impairment of an organ by no means implies that it is no longer capable of accomplishing in some degree or other the specific functions involved. There are numerous processes, such as the synthesis of urea in the liver, which are executed with such apparent chemical readiness that a deficiency in a given important function does not make itself apparent through urinary analysis until a stage of pathologic disruption easily diagnosticated by simpler means has had

1. Foster, N. B.: Functional Tests for Hepatic Cirrhosis, Am. Jour. Med. Sc., June, 1912, p. 830.

its onset. In other words, the ordinary capacity of an organ like the liver to perform its metabolic duties is far beyond what this gland is called on to display in the usual run of nutritive events. There is here as elsewhere in the body a large "factor of safety," to use Meltzer's suggestive expression.

The preceding facts have an immediate bearing on some of the proposed functional tests for hepatic disease. Among these the power of the liver to deamidize amino-acids and convert their nitrogen into urea has been recommended especially by continental investigators. Compounds like glycocoll (amino-acetic acid) have been fed and the partition of nitrogen in the urine has then been followed, with particular reference to reexcretion of the unaltered amino-acid. Foster's critique of the available data, pointing out the uncertainties of the dietary factor in most of the trials and the inadequacy of the analytic methods, lends little weight to the supposed value of this test. In truth there must be a severe impairment of the liver before any disturbance in nitrogenous metabolism clearly manifests itself. The word "test," however, implies a delicate as well as a specific reaction. A real test for disease should accordingly reveal a morbid process in its minutest manifestation.

Other tests are subjected to a criticism scarcely more favorable. Here belongs the levulose test proposed by Strauss in 1901 and widely tried. The presence of alimentary levulosuria after giving 100 grams of levulose to a fasting patient is taken as an index of hepatic abnormality on the theory that the glycogenesis of levulose is confined exclusively to the liver cells. At best it must be admitted that this "test," which not infrequently charges defect to clinically normal individuals, requires further investigation before its real import can be determined. The tolerance for sugars undoubtedly depends on a multiplicity of factors.

Similarly the defense of urobilinuria as diagnostic of hepatic impairment has much to contend with; for here too there are inevitable complicating sources and circumstances. We would not be understood as ready to discard the numerous functional tests which are familiar in the literature and practice of clinical diagnosis. The recent success of the investigation of renal function by means of phenolsulphonephthalein is too fresh in our minds to warrant a sweeping disregard for much that is useful. What is called for, however, is a check to the over-ready acceptance of every plan which is proposed as an unfailing test for functional disorders. As already pointed out, some of the difficulties are inherent in the unusual efficiency of our organs themselves.

Current Comment

A LIBRARY OF MEDICAL CLASSICS

The idea of an anthology of the classics of medical literature is not specially new. Oribasius and the other Byzantine compilers attempted to skim the cream of the Greek writers and in the sixteenth century many huge encyclopedic collections of medicine, surgery, gynecology, syphilography and balneology were made by the Aldi, Giuntas, Gesners and others. The great Renaissance printers made a specialty of fine library editions of the Greek masters, and this custom has been continued more or less to the present time. As late as 1830 we find Choulant editing a neat little vest-pocket edition of the Latin text of Fracastorius' poem on syphilis. A new phase of the matter is the appearance of translations of the classics of exact science, published serially in cheap, accessible and handy form, such as Ostwald's well-known library of scientific classics or the chemical publications of the Alembic Club of Edinburgh. Some years ago Dr. C. N. B. Camac brought together Harvey, Auenbrugger, Laennec, Lister and other interesting things in one volume. In France a neat little collection comprising John Hunter, Claude Bernard, Bichat and Lavoisier was begun by Charles Richet in 1892, but not carried very far. The series of "Klassiker der Medizin," which was started by that industrious medical historian Karl Sudhoff in 1910, bids fair, however, to be a collection quite as extensive and popular as Ostwald's. It consists of a number of inexpensive pocket editions of different medical classics, similar in size, shape and binding to the Ostwald series and, like them, in the German language. The most important issues so far are Harvey on the circulation, Helmholtz on the ophthalmoscope, Fracastorius on contagion, Sydenham on gout, Virchow on thrombosis and embolism, Koch on the causation of anthrax, Jenner on vaccination, von Graefe on iridectomy in glaucoma and Rhazes on small-pox. Reil on the life-force and Henle on miasms and contagia are more especially intended for German palates, no doubt, but Kussmaul on the treatment of dilatation of the stomach by means of the stomach-pump (1869) deserves to be better known as an important innovation in therapeutics. Translations of Auenbrugger on percussion and Bichat's physiologic researches on life and death are announced to appear shortly. An issue of special interest to English readers is a bilingual (English-German) text of Sir Charles Bell's "Idea of a New Anatomy of the Brain" (1811), which occasioned the famous dispute about the functions of the spinal nerve roots and has become so rare in its original edition that the latter cannot now be had for love or money.

A GERMAN COUNCIL ON PHARMACY AND CHEMISTRY

In the Propaganda Department of a recent issue[1] we discussed the organization of a German council on pharmacy and chemistry — Die Arzneimittelkommission des Kongresses für innere Medizin — and its first preliminary report. While Germany lacks a central organization which corresponds to the American Medical Association in this country, it is hoped that the work of this council, or commission, will receive the general endorsement of the medical profession in Germany. It is to be expected that this effort toward a supervision of proprietary medicine exploitation will be opposed by the industries affected. One sign of this has already

1. THE JOURNAL A. M. A., June 27, 1912, p. 291.

appeared in the form of a protest by manufacturers.[2] The nature of the protest is a general objection to any interference with trade. One phase of this protest, however, is especially characteristic of Germany's tendency: it is charged that this report is liable unfavorably to affect the sale of German proprietaries in foreign countries. To those German physicians who feel that patriotism demands the support and advancement of all German industry regardless of its character, we would say that the time has long passed when we in this country took as gospel truth the claims made in German advertising circulars and in the many articles exploiting proprietaries which come to us in the form of reprints from German medical journals. Let us hope that those who constitute the German commission will not be daunted by the protests of interested concerns and that our colleagues will give the members of this council the support which they deserve.

SENATOR OWEN ELECTED

Senator Owen, against whom a bitter fight has been waged by the League for Medical Freedom crowd and by others who are opposed to a national Bureau or Department of Health, has been nominated by a majority reported, at the time we go to press, to be between 35,000 and 50,000. This nomination in Oklahoma is equivalent to election. Congratulations are extended to Senator Owen in this victory.

ACROMEGALY—A PERSONAL EXPERIENCE

One who has undergone a remarkable experience generally likes to tell about it, and we have many accounts of this kind by explorers and others. That one who has suffered from a distressing and progressive disease for at least thirty-two years should be able to write a complete and highly valuable account of his experience is more rare — indeed, so rare as to make the account almost unique. And this is what Dr. Mark, pathologic draughtsman to St. Bartholomew's Hospital, has done in his book[3] on acromegaly as it afflicted himself. Of all the accounts that have been written about this strange disease none equals this in interest and charm of style. Let the author himself speak: "When Fate, shaping my 'ends,' decreed that I was to suffer from the malady acromegaly [acromegaly means 'big ends'] she perhaps gave me the greatest compensation possible by causing me to enter the medical profession. After the distress caused by the one and the enjoyment due to the other — both extending over more than a quarter of a century — I find myself in the unique position of being able to relate a personal experience of this rare complaint as it affected one with some medical knowledge." Dr. Mark suffered from acromegaly for years and years before he discovered what had long been obvious to his friends. "For some fifteen or twenty years, each day when I looked into the glass to brush my hair or to shave, there was a typical acromegalic literally staring me in the face. Yet I never recognized the fact." Fortunately he had kept a diary, the entries in which made it possible to fix the time of the appearance of certain symptoms which at first were not accounted for. The manner in which Dr. Mark became aware of the disease he had had so long is strange: "I was walking across the northeast corner of Cavendish Square one afternoon in November, 1905, when all at once the idea seized hold of my mind that perhaps I might be suffering from acromegaly, and that it might be the cause of my troubles. It came on me like a bolt from the blue. As far as I could remember afterward, no particular train of thought led up to it. For the first time I thought there might be some connection between my headaches and the enlargement of my hands and feet." The patience and fortitude that have enabled Dr. Mark to continue his work and to write this most remarkable book arouse the highest admiration. He has retained such hold on himself that he describes phases of the extremest bodily discomfort with a fine play of humor. We are given a noble example of the way in which a brave man retains courage and usefulness in the midst of severe and daily suffering.

2. Wien. klin. Rundschau., June 30, 1912, p. 416.
3. Mark, L. C.: Acromegaly: a Personal Experience, London, Baillière, Tindal & Cox, 1912. Pp. 100; price 7 shillings 6 pence net.

Medical News

COLORADO

Leper in Denver.—A leper who escaped from the City Leper Hospital, San Francisco, is at present under surveillance in Denver and is confined in a tent at the pest house.

Home for Mental Defectives.—A new city home for mental defectives, Denver, was opened for the reception of patients, July 21. The present capacity of the institution is eighty. The first patients admitted were sixteen children, wards of the state, who had been inmates of a private hospital in Pueblo.

Free Clinic at Pueblo.—The month of July was devoted by the Pueblo County Medical Society to a free clinic at Pueblo. The operative work was done chiefly between July 22 and 29, at St. Mary's, Minnequa, Woodcroft and the County hospitals. During this week the members of the State Medical Society were the guests of the Pueblo County Medical Society. A complimentary banquet was given to the visiting physicians by the society, July 21, at which Dr. William Frederick Singer officiated as toastmaster.

Personal.—Dr. Henry Sewall, Denver, was given the honorary degree of doctor of science by the University of Michigan, June 27.——Drs. W. F. Singer and J. H. Woodbridge, Pueblo, while answering a call to a wrecked Rock Island train, suffered painful injuries by the overturning of their automobile.——Dr. Perry Jaffa, Trinidad, physician of Las Animas County, who recently underwent a serious operation at St. Joseph's Hospital, Denver, is reported to be improving rapidly.——Dr. William C. Mitchell has been reappointed city bacteriologist of Denver.

CONNECTICUT

New Officers.—Yale Medical Alumni Association at New Haven: president, Dr. H. B. Ferris; secretary-treasurer, Dr. M. M. Scarbrough, both of New Haven.

State Board of Health Elections.—At the annual meeting of the State Board of Health in Hartford, July 12, Dr. E. K. Root, Hartford, was elected president, and Dr. Joseph H. Townsend, New Haven, secretary-treasurer.

Personal.—Dr. and Mrs. Morris Tuch, Hartford, have sailed for Europe.——Wesleyan University, Middletown, at its eighty-first annual commencement conferred the honorary degree of LL.D. on Dr. Amos J. Givens, Stamford.——Lieut. Arthur H. Griswold, Hartford, M. C. N. G., Connecticut, has resigned.——Dr. Robert Lauder, Bridgeport, has been appointed physician to the Soldiers' Home, Noroton.——Dr. Thomas G. Alcorn, Thompsonville, has succeeded the late Dr. Edward F. Parsons as medical examiner.——Dr. Edward J. Lynch, Portland, has been appointed assistant superintendent of the Hartford County Home.

ILLINOIS

Chicago

Progress on the Milk Ordinance.—The public meeting on the milk question held in the city council chamber, July 31, mention of which was made last week, proved to be a stormy session, attempts being made by the opposition to block the meeting. Resolutions were passed, however, for the organization of a citizens' committee to work in harmony with the councilmen favoring the milk ordinance, for the preparation of a new ordinance and the creation of an active public sentiment that would compel its passage by the council. The subcommittee of the health committee of the council, having the milk ordinance in charge, have had meetings with the small milk dealers and a better understanding has been reached in regard to the proposed ordinance and the opposition has somewhat abated. A number of the councilmen also have changed their opinions in regard to the questions at issue and will, no doubt, favor a new ordinance, which is being prepared. Mayor Harrison, who is on his vacation, sends word that his name may be used in any way favoring a clean milk supply.

MARYLAND

Typhoid Outbreak.—There has been an outbreak of typhoid fever at Cambridge, which is now being investigated by the State Board of Health. Up to August 1, about eighteen cases have been reported and it is believed that the number under blood test will reach forty. It is believed that the outbreak was due to infected milk.

Baltimore

More Births Are Being Reported.—The good results of the law passed by the legislature last November requiring the physicians and midwives to report all births within four days are already being shown. During July, 1,690 births were registered, the largest number on record.

Milk Plan Only Tentative.—Dr. C. Hampson Jones, acting commissioner of health of Baltimore, advises that a tentative plan has been made by the department which requires that no raw milk may show more than 500,000 bacteria per cubic centimeter and that the outside limit of bacteria for pasteurized milk as delivered to the customer should be 50,000 bacteria per cubic centimeter. This plan will probably be adopted. The standard referred to July 27 was not adopted.

Personal.—Dr. Eugene B. Wright, resident physician to the Church Home and Infirmary, Baltimore, has received an appointment to a similar position at the Hebrew Hospital, vice Dr. Chadbourne Andrews. Dr. Wright has been succeeded by Dr. Luke V. Zartman.——The residence of Dr. August Horn was struck by lightning, July 29.——Dr. Gilbert T. Smith, surgeon to the Alaska-Canada Boundary Commission, has returned from Alaska and has started for Europe.——Dr. Harvey Cushing will leave Baltimore permanently next month, and will assume duties as surgeon in chief of the Peter Brent Brigham Hospital, Boston, on October 1.——Dr. William Royal Stokes, city and state bacteriologist, is ill in Mercy Hospital with bronchitis.

MICHIGAN

Combined Society Meeting and Picnic.—A meeting and picnic of the Muskegon-Oceana County Medical Society was held at Clear Lake, near Holton, August 2. Papers were read by Dr. Ryan, Des Moines, Ia., and Dr. Channing W. Barrett, Chicago. The meeting was in charge of Dr. B. F. Black, Holton. The guests provided their own lunches, but coffee, ice cream and plates were furnished by Dr. and Mrs. Black.

Personal.—Dr. W. S. Picotte, Ishpeming, has returned from Europe.——Dr. H. E. Locher, president of the board of health of Grand Rapids, who has been ill for several months, has recovered and resumed practice.——Dr. Alexander M. Campbell, Grand Rapids, fractured his right wrist while cranking his automobile, July 26.——Dr. Thomas C. Weston, Muir, underwent operation at St. Mary's Hospital at Grand Rapids, July 24.——Dr. Carl D. Chapell, Flint, fractured his right leg while wrestling at Watkins Lake, July 18.——Dr. Edward T. Abrams, Hancock, and Dr. F. M. Harkin, Marquette, have been appointed medical inspectors for the twelfth district and Dr. H. A. Hume, Owosso, medical inspector for the eighth district.

MISSOURI

Personal.—Dr. O. Wendell Mitchell, Columbia, sailed for Europe, July 22.——Dr. D. K. Morton, Kansas City, is seriously ill at his home with paralysis.——Dr. F. W. Burke, Laclede, has been appointed a member of the State Board of Health, vice Dr. M. P. Overholser, Nevada, resigned.——Dr. L. C. Cook, Webb City, has been commissioned major M. C., N. G. Mo., and assigned to the Second Infantry.——Dr. Thomas Lynch, St. Joseph, was painfully injured in an automobile collision, July 13.——Dr. Thomas J. Dandurant, St. Joseph, has had conferred on him the honorary degree of LL.D. by Christian Brothers College, St. Louis.

New Officers.—Second District Medical Society, at Hannibal, July 16: president, D. C. E. Callison, Kirksville; secretary, Dr. Fred D. Stichter, Louisiana.——North Missouri Medical Association at Kirksville: president, Dr. C. S. Wilson, Kirksville; secretary, Dr. E. W. Guilford, Monroe City.

Hospital Officers and Staffs Elected.—The staff of German Hospital, Kansas City, has elected Dr. F. W. Froehling, president; B. L. Sulzbacher, vice-president; Dr. M. W. Pickard, secretary; Drs. J. Q. Chambers and G. H. Hoxie have been elected physicians; Dr. E. F. Robinson, J. F. Binnie, William F. Frick and E. Von Quast, surgeons; Dr. George C. Mosher, obstetrician; Dr. Frank C. Neff, pediatrist; Dr. W. K. Trimble, bacteriologist; Dr. H. C. Anderson, anesthetist; Dr. J. E. Sawtell, rhinologist and laryngologist; Dr. W. H. Schutz, ophthalmologist and otologist; Dr. W. L. McBride, dermatologist and Dr. Ellsworth Knerr, roentgenologist.——The following appointments of medical staff have been made at the Levering Hospital, Hannibal: Dr. J. N. Baskett, physician in charge; attending staff, Dr. Thomas Chowning, surgeon; Dr. I. E. Hill, physician; Dr. J. J. Farrell, gynecologist and urologist; Dr. W. H. Hays, obstetrician and pediatrist; Dr. J. N. Baskett, pathologist; Dr. E. T. Hornback, oculist and aurist and Dr. J. F. Cooper, roentgenologist; consulting staff—Drs. C. E. Paxon and H. L. Banks, surgeons; Drs. Richard Schmidt and Mary S. Ross, physicians; Drs. J. F. Cooper and C. E. Paxon, gynecologists and urologists; Drs. W. C. Guss and E. E. Waldo, obstetricians and pediatrists and Drs. U. S. Smith and James S. Howell, oculists and aurists.——The Hadley Hospital for tuberculosis patients, at the Fulton State Hospital, completed at a cost of $50,000, was opened June 11. Drs. Frederick Walter, Perry and H. G. Dallas, Augusta, have been appointed members of the staff.

St. Louis

New Health Bulletin.—St. Louis Board of Health has begun the publication of a monthly magazine to be known as the *Bulletin of the St. Louis Health Department*. The object of the publication is the dissemination of information and advice regarding sanitation and disease prevention.

Luncheon to Medical Reserve Corps.—About twenty of the members of the Medical Reserve Corps, U. S. Army, were entertained at Jefferson Barracks, July 12, by Major Deane C. Howard, M. C., U. S. Army. After an informal reception, the officers inspected the reservation, and the hospital corps detachment gave an exhibition drill. The entertainment concluded with an informal luncheon.

Inebriate Ward Needed.—On account of the number of cases of injuries of the skull in which patients have been sent to the police stations and detained there on the charge of intoxication, the establishment of a detention ward for inebriates has been suggested, and temporarily, the city dispensary physicians have been ordered to send all such patients to the City Hospital for detention and observation.

NEW YORK

New Hospital at Saranac.—The foundation of the new General Hospital which is being erected at Saranac has been completed. Many summer visitors have made contributions and the subscriptions now amount to $6,500. The Saranac Lake Graduate Nurses Association has contributed $125.

Pellagra at Hornell.—Mrs. Rose M. Palmore died from pellagra at Hornell on July 30. Attention was first called to the case last April and since that time the patient was under the observation of the state dermatologist, Dr. Frederick C. Curtis. It is said that this is the first case of this disease that has been observed in this state.

New York City

Post-Graduate Directors Reorganize.—At a reorganization meeting of the New York Post-Graduate Medical School and Hospital the following officers were elected: president, Dr. James F. McKernon; vice-president, Dr. Edward Quintard; secretary, Dr. Arthur F. Chase; treasurer, William Fahnestock; secretary of the faculty, Dr. George G. Ward, and superintendent, Dr. H. T. Summersgill.

Increased Number of Street Accidents.—Deaths and serious injuries from street accidents continue to increase. During July, the National Highway Protective Society reported 52 persons killed and 259 injured, as against 26 killed and 186 injured during the corresponding month of last year. There

has been a reduction in the number of accidents and deaths due to street cars, which is the direct result of rigidly-enforced regulations of the traction companies.

Cleaning Up the City.—The Department of Health and Street Cleaning, the Charity Organization and the Boy Scouts have begun a week's campaign in cleaning up streets, cellars and backyards throughout the city. The idea of such a campaign had its inception with James Jenkins, Jr., secretary of the Brooklyn Tenement House and Tuberculosis Prevention Committee, who had tried the plan in an Italian colony in Brooklyn, where it met with such success that it has seemed worth while extending the work.

Teaching Tuberculous Children on Hospital Roof.—The elementary schools committee voted to have a school room on the roof of the Long Island College Hospital for tuberculous children. Forty boys and girls will make up the class to start with; food and clothing will be furnished them so that they can endure the severest weather. Roosevelt Hospital expects to offer the use of its roof for a class of this description. Five other roof classes will be established in Brooklyn this fall. This will be the first instance in which a public school has been joined to a hospital so that the children may receive medical attention every day.

To Stimulate Defective Children.—William H. Maxwell, superintendent of schools, has decided to ask the Board of Education to sanction an experiment in electrifying a school room for the purpose of stimulating mentally defective children. The plan used will be that of Nikola Tesla, who has tried the plan in Stockholm. The electrical apparatus is installed in the walls of the room and is so hidden that neither the children nor the teacher are aware of its presence. In order to test the efficiency of this plan, about fifty deficient children will be instructed in an electrified room, while the same number of defective children will be used as controls.

Personal.—Dr. Charles Fraser, ambulance surgeon of St. Catherine's Hospital, Brooklyn, while responding to a hurry call was seriously injured by a collision between the ambulance and a trolley car, July 31.——Dr. Louis L. Sweeney, ambulance surgeon of the Bradford Street Hospital, Brooklyn, was painfully injured while responding to an emergency call, July 28, but in spite of his injuries, rendered first aid to a man who had cut his throat, and inserted a tracheotomy tube before returning to the hospital to have his own wounds dressed.——Dr. Robert L. Gray, Dr. George W. Warren, Dr. and Mrs. Edwin Beer, Dr. David Bovaird, Jr., Dr. James L. Porteous, Dr. L. C. W. Chapin, Dr. and Mrs. Edward E. Hicks, Brooklyn; Dr. J. P. McParlan, Dr. and Mrs. Ernest Hubbard have sailed for Europe.——Dr. William B. Pritchard has returned from abroad.

NORTH CAROLINA

New Hospitals.—Ground was broken last week for a new private hospital in Fayetteville to be known as the Cumberland Hospital.——The sanatorium of Dr. Charles T. Harper, Wilmington, formerly the Wilmington Sanitarium, was reopened July 20. The building has been thoroughly remodeled and a story has been added.

City Acquires Sewer System.—After long consideration and preliminaries, the sewer lines of the Wilmington Sewerage Company have been acquired by the municipality. The system is twenty miles in extent, exclusive of laterals and cost the city $130,000. Betterments and extensions will be added to the amount of $200,000. It is also planned to construct, conjointly with New Hanover County, a garbage incinerator to cost not more than $50,000, four-fifths of the expense to be assumed by the city and the remainder by the county.

OHIO

Physicians' Building.—Contracts have been awarded for the erection of a three-story office and apartment building in Columbus, to cost $26,000.

New Officers.—Tri-County Medical Society (Wood, Hancock and Seneca counties) organized at Findlay, July 25: president, Dr. Jacob A. Kimmell, Findlay; vice-presidents, the presidents of the county societies; secretary, Dr. C. B. Kennedy, Findlay.——Sandusky County Medical Society: president, Dr. M. Stamm; secretary, Frank Moore, both of Fremont.

Personal.—Dr. John C. Hervey, Martins Ferry, is reported to be ill with scarlet fever.——Dr. M. H. Cannedy, Painesville, coroner of Lake County, has resigned.——Dr. Charles Flint Kline, Portsmouth, is reported to be critically ill.——Dr. H. P. Martin, Chillicothe, was stunned during a severe electric storm, July 18.——Dr. W. C. Gates has purchased a building in Bucyrus which is to be remodeled and equipped as a hospital.

Welfare Work for Employees.—The National Cash Register Company, Dayton, has added an innovation in welfare work for women employees. Last year it undertook the preparation of a lecture on the "Venereal Peril" illustrated by lantern slides and kinemacolor motion pictures of hospital cases. This lecture has been given before several medical societies and by invitation of the American Medical Association was given several times during the Atlantic City session. Thus far the lecture has been given to about 800 of the 5,000 men employees of the National Cash Register Company. Last month in response to a request from a committee of women employees, the company had a series of lectures given its 700 women employees on "The Physiology and Hygiene of Sex and the Social Diseases." Four lectures and two conferences were given by Dr. Elnora C. Folkmar of Washington, D. C. The subjects discussed were: (1) "Reproduction in Plants, Fishes and Frogs"; (2) "Reproduction in Insects, Birds, Mammals, Man"; (3) "The Hygiene of Adolescence" and (4) "Social Diseases." The conferences were given to answer more than 300 questions that had been handed in by the women at the close of the fourth lecture. All the lectures were illustrated by lantern slides and moving pictures. The slides for the first three lectures (250) were prepared from illustrations selected by Dr. Folkmar especially for this course. The slides used for the lecture on "Social Diseases" were selected from those prepared for the lecture on "The Venereal Peril." The motion pictures showed the development of the frog from an egg, the development of the chick from an egg, and the ravages of the *Spirochæta pallida*. This sort of educational work is unique among industrial institutions and demonstrates the interest which this manufacturing concern takes in its employees. Each of the 700 women employees was allowed one and one-half hours working time for six successive days to attend these lectures which were furnished at the company's expense.

PENNSYLVANIA

Philadelphia

State Railway Accidents.—Records of the State Railway Commission show that in the first six months of 1912, 7,566 accidents occurred on the steam railroad and trolley railways of the state as compared with 6,167 in the same period of 1911. The fatalities on steam roads in the first half of the present year, numbered 559 and 85 on street railways, as compared with 530 on steam roads and 101 on street railways for the same period of 1911.

Increase in Typhoid.—There has been a decided increase in the number of cases of typhoid fever and they are chiefly confined to the downtown sections. According to Dr. A. A. Cairns, chief medical inspector, who has been investigating these cases, out of the twenty-five cases reported from downtown during July, it was learned that ten had been caused by swimming in the Delaware, six in the Schuylkill and nine from drinking unfiltered water.

Italian Ships Fumigated.—The Italian Steamship Company is cooperating with the City Board of Health in adopting safeguards to prevent its vessels, plying between this city and Italy, being contaminated by any rats and in the case of the steamship *America* which reached here July 31, appealed to Chief Vogelson, of the Bureau of Health, to have the ship thoroughly fumigated and disinfected while she was lying at the municipal pier, Race Street.

Personal—Dr. Lewis Brinton was struck by a motorcycle as he alighted from a trolley car in Atlantic City on July 30 and sustained concussion of the brain and internal injuries.——Dr. A. H. Stewart has resigned as first assistant bacteriologist at the city's antitoxin laboratory.——Dr. Benjamin L. Gordon, a police surgeon, was attacked by highwaymen, August 1, beaten into unconsciousness and robbed.——Dr. Paul J. Sartain has sailed for Europe.

Society Urges New Tuberculosis Hospital.—The Pennsylvania Society for the Prevention of Tuberculosis issued, on July 31, a survey of the tuberculosis equipment of Philadelphia, which sets forth that the number of beds available for consumptives in Philadelphia is alarmingly small, there being 582 beds, while 2,960 deaths occurred last year. The location of the wards for consumptives at Blockley is criticised and recommendations are made for the building of a modern tuberculosis hospital on a site elsewhere. Four sections of the city are shown to be without dispensary service. They are: the Gray's Ferry District; the western part of West Philadelphia;

Germantown and Manyunk and Northwest Philadelphia. Recommendations are also made for the establishment of more open air schools and for an increase from twenty-four to fifty-five in the number of school nurses. The survey further recommends the passage of a law making it possible for the Bureau of Health to detain in a hospital a consumptive whose presence at home is dangerous to his family.

GENERAL

Tuberculosis Sunday.—Sunday, October 27, has been designated by the National Association for the Study and Prevention of Tuberculosis as National Tuberculosis Day, to be utilized by antituberculosis workers throughout the United States, not only for the general education of churchgoers regarding tuberculosis, but also to interest them in the sale of the Red Cross Christmas seal.

Named on Leper Board.—Dr. R. L. Dixon, Livingston, secretary of the State Board of Health of Michigan, Dr. C. S. White, Portland, Ore., and Dr. Charles J. Fagan, Victoria, B. C., have been named as the international commission recently organized to take in charge the passage of suitable legislation regarding the leper situation in North America. Dr. Dixon has been named as chairman.

Infantile Paralysis.—Epidemics of infantile paralysis of small proportions have been reported from Buffalo, N. Y., Akron, O., and Racine, Wis. At Buffalo it is reported that the cases averaged one a day during the month of July. On July 19, thirteen cases had been reported in Akron, O., and an investigation by the state health board was under way. Seven cases with five deaths are reported from Baltimore. At Los Angeles up to August 2, 173 cases of the disease had been reported to the health department, thirty-three of which resulted fatally.

Sanitary District Committee.—Dr. J. N. Hurty, Indianapolis, secretary of the State Board of Health, H. E. Barnard, chief chemist of the board, Dr. A. J. Lauer, Whiting, Ind., Dr. William D. Weis, Hammond, Ind., and Edward Barton, director of the Illinois Water Survey, Urbana, have been appointed by the Lake Michigan Sanitary Association, a committee to confer with the officials of Hammond, Whiting, Indiana Harbor, East Chicago and Gary, concerning a bill for consideration by the next Indiana General Assembly to include these cities in one sanitary district.

Railroad Hospital Turned Over to Employees.—On August 1, the Hospital Department of the Missouri, Pacific-Iron Mountain System, was turned over to the employees. The service is to be controlled by a Board of Hospital and Service Managers to be composed of nine members selected from different departments of the railroad. The hospital properties include hospitals in St. Louis, Kansas City and Little Rock, Ark., an interest in a hospital in Texarkana, and arrangements with about thirty other hospitals along the line of the road, which at present, look after the sick and disabled of the company. The chief surgeon of the road is to be chairman *ex officio* of the board and also of the executive committee of the board.

Bequests and Donations.—The following bequests and donations have been announced recently:

Massachusetts General Hospital, $5,000; Boston Lying-In Hospital and New England Hospital for Women and Children, each $3,000, by the will of the late William Litchfield, Lexington.

Presbyterian Hospital, Philadelphia, $309,247, by the will of the late Martha Ellen Kartright, the bequest being sustained by the Supreme Court.

Miami Valley Hospital, Dayton, has been offered $25,000 by a lady of the city to be used for the erection of an addition for the treatment of contagious and specific diseases.

Children's Seaside Home, Atlantic City, $3,000, by the will of the late Mrs. Mary E. Irwin, to endow two beds in memory of the father and mother of the testatrix.

Kenosha Hospital, $10,000, donated by Mrs. Ella F. Allen to endow and equip a room as a memorial to the late Charles W. Allen.

Mountainside Hospital, Montclair, $5,000, by the will of the late Dr. Edwin M. Ward.

St. Mary's Hospital, Brooklyn, a tract of land in Brooklyn, improved with buildings; Mount Sinai Hospital, New York, real estate in East New York, by the will of the late Solomon Wolf of Worcester, Mass.

Bay Ridge Hospital, Brooklyn, $10,000, by the will of the late Niels Poulson.

Thrall Hospital, Middletown, N. Y., $50,000, by the will of the late James Edward Childs, available on the death of his widow.

Lincoln Hospital and Home, $1,000; American Endowment Fund of the Lebanon Hospital for the Insane, Syria, Asia Minor, $5,000, by the will of the late Ellen Collins, New York City.

George W. Hubbard Hospital, Nashville, $5,000, by the will of the late Dr. A. F. Boyd.

Plague News.—Advices from Amoy, China, under date of August 1, report that 224 deaths from bubonic plague were reported to the authorities in that city during the three months ending July 31.——On July 23, a case of plague was reported in the Puerta de Tierra section of San Juan, Porto Rico. The diagnosis was confirmed July 24. July 29, another case was reported at San Juan. This makes the total of cases in Porto Rico up to July 29, forty-five. No new cases were reported from Cuba between July 23 and July 28. The total number of cases in Havana has been three.——Investigation shows that the plague-infected rat found on the water front in New Orleans was probably not connected with Porto Rican or Cuban shipping. The rat was found on Stuyvesant dock 5 and a surrounding area of sixty blocks will be included in the suspicious territory in which all rats will be killed.——In the country-wide campaign against bubonic plague, Surgeon-General Blue has assigned five additional experts from the Marine-Hospital Service to various ports.——Passed Assistant Surgeon Edward Francis, in charge of the hygienic laboratory, was dispatched to New Orleans to take charge of the laboratory work there. Other experts were ordered from San Francisco to New Orleans to test rats.——Passed Assistant Surgeon C. W. Chapin was ordered to Porto Rico to assist in the laboratory work there.——At the bubonic plague conference at New Orleans, July 29, the following officers of the Southern Health Conference were elected: Dr. Oscar Dowling, president; Dr. J. H. White, vice-president, representing the federal service; State vice-presidents, Dr. I. L. McGlasson of Galveston, Tex.; Dr. W. T. O'Reilly, New Orleans; Dr. W. S. Leathers, Jackson, Miss.; Dr. C. A. Mohr, Mobile, Ala.; Dr. J. Y. Porter, Jacksonville, Fla.; Dr. W. F. Bruner, Savannah, Ga.; and Dr. S. H. Capps, Gulfport, Miss., secretary-treasurer.——A case of bubonic plague in a boy of 7 is reported as having been found in Liverpool, England.

CANADA

Isolation Hospital for Calgary.—Plans for a small-pox hospital at Calgary have been approved. The building will be erected this season and is expected to cost about $18,000.

Personal.—Dr. James Fairplay McMurrick, Toronto, was given the honorary degree of Doctor of Laws by the University of Michigan, June 27.——Dr. John N. E. Brown, superintendent of the Toronto General Hospital and secretary of the American Hospital Association, has been appointed superintendent of the Detroit General Hospital.——Dr. John Harrison, Montreal, has sailed for Europe.——Drs. H. R. Casgrain, Windsor; T. E. Kaiser, Oshawa, and A. A. Weagant, Ottawa, have been appointed members of the Provincial Board of Health of Ontario.

Tuberculosis Notes.—At a recent meeting of the London Health Society, it was decided that patients from the City of Chatham and County of Kent could be admitted to the Byron Sanatorium providing an initial contribution of $5,000 was made together with a daily payment of 50 cents for each patient.——At the annual meeting of the Winnipeg Antituberculosis Society, Dr. H. H. Chown was elected a vice-president; Dr. H. J. McDermid, honorary secretary-treasurer; H. H. Chown, H. P. Galloway, A. J. Douglas, Gordon Bell, W. Chesnut, T. G. Hamilton, T. A. Knight, W. S. Macdonald, E. Walters, H. Mackay, G. H. Walker and E. W. Montgomery were elected members of the executive committee.——Of the $20,000 required for the establishment of a tuberculosis hospital in Brantford, Ont., only $2,500 remains to be subscribed.——The Essex Health Association has acquired a site for its tuberculosis hospital on the shore of Lake Erie, near Ruthven.

Health Districts.—At the last session of the Ontario legislature the following health districts were established and the following health officers appointed: district No. 1: Elgin, Essex, Kent, Lambton, Middlesex and Oxford counties, with headquarters at London, Dr. David Benjamin Bentley, Sarnia; district. No. 2: Bruce, Dufferin, Gray, Huron, Perth, Wellington and Waterloo counties, with headquarters at Palmerston, Dr. Thomas James McNally, Owen Sound; district No. 3: Brant, Haldimand, Halton, Lincoln, Norfolk, Peel, Welland, Wentworth and York counties, with headquarters at Hamilton, Dr. Daniel Alexander McClenahan, Waterdown; district No. 4: Ontario, Durham, Northumberland, Prince Edward, Hastings, Peterborough, Victoria, Muskoka and Simcoe counties, with headquarters at Peterboro, Dr. George Clinton, Belleville; district No. 5: Lennox and Addington, Frontenac, Leeds, Grenville, Stormont, Dundas, Glengarry, Prescott, Russell, Carleton, Lanark and Renfrew counties, with headquarters at Kingston, Dr. Paul J. Maloney, Cornwall; district No. 6: Parry Sound, Nipissing, Temiskaming and Sudbury counties, with headquarters at North Bay, no appointment yet made; district No. 7: Manitoulin, Algoma, Kenora, Thunder Bay and Rainy River counties, with headquarters at Fort William, Dr. Robert E. Wodehouse, Fort William.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, July 27, 1912.

The Annual Meeting of the British Medical Association

The eighteenth annual meeting of the British Medical Association was held in Liverpool, July 23-26. The university and public buildings furnished ample accommodation for the general and sectional gatherings. The meeting was attended by delegates from the oversea branches, of which South Africa sent as many as eleven and Australasia fourteen. Canada was represented by Professor Cameron of Toronto and Professor Birkett of Montreal. Among the foreign guests were Professors Blanchard de Beurmann of Paris, Drs. Hajek and Kahler of Vienna, and Snellen of Utrecht, Professor Strauss of Amsterdam, Dr. Haenisch of Hamburg, Dr. Seidelin of Mexico and Drs. Casey A. Wood and Ballenger of Chicago. The president, Sir James Barr, gave his address the title, "What Are We? What Are We Doing Here? Whence Do We Come? and Whither Do We Go?", which he took from Bergson's Huxley lecture on "Life and Consciousness." In the present case "we" of course was narrowed down to the medical profession. The address was mainly concerned with eugenics. The president pointed out that a selective death-rate, which is Nature's method of eliminating the unfit, has been at least partially suspended by the efforts of the profession. On the other hand, it had made no serious attempt to establish a selective birth-rate so as to prevent the race being carried on by the least worthy citizens. The same maudlin sentimentality which often pervaded the public not infrequently affected the profession. We often joined forces with self-constituted moralists in denouncing the falling birth-rate and called out for quantity regardless of quality. We were apt to forget that a high birth-rate is practically always associated with a high death-rate and a low birth-rate with a low death-rate. The former is Nature's method and has always produced a fine race, but with the advance of civilization it became too crude and barbarous. We were compelled by the dictates of conscience to preserve as far as possible every human being no matter how imperfect. To elevate humanity it was now necessary to begin with the unborn. The race must be renewed from the mentally and physically fit and moral; physical degenerates must not be allowed to take any part in adding to it. Above all we must breed for intelligence. The laws of heredity should be widely taught, so that those with hereditary blemishes may consider their moral responsibility in bringing children into the world.

THE REPRESENTATIVE MEETING AND THE NATIONAL INSURANCE ACT

Great interest centered in the meeting of the representatives, as on their decision depended the result of the most important political crisis in the profession which has ever occurred in this country—the deadlock in the negotiations with the government on the national insurance act. For the fifth time the matter has been before the representatives. Many had been sent as delegates to vote as instructed by their divisions, while others were given a wider discretion. The question was whether the concession demanded from the government not having been obtained, negotiations should be broken off. A long and animated debate took place and the following resolution was adopted by an overwhelming majority: "1. That the government be informed that the association adheres to its minimum demands as formulated in the letter of Feb. 29, 1912, and since elaborated in interviews with the Chancellor of the Exchequer. 2. That the association call on all members of the association who are members of advisory committees in connection with the national insurance act, and also on other medical members of those committees who are in sympathy with the policy of the association to withdraw from these bodies. (3) That the association call on all practitioners to refrain from applying for or accepting any post or office of any kind in connection with the national insurance act, except in regard to sanatorium benefit, provided it is carried out in accordance with the wishes of the association, until such time as the government has satisfied the association that its demands will be met." Thus the deadlock continues and it is impossible to forecast the solution.

PROPOSAL TO CONVERT THE ASSOCIATION INTO A TRADE-UNION

The prolonged struggle against the pernicious proposal of the insurance act has rendered the association much more political and many of its methods are now analogous to those of trade-unions. One of the representatives moved that the council seek to obtain the opinion of the divisions as to the desirability of the association becoming a registered trade-union. Among the advantages are the possibility of using the funds as was wished and immunity from libel actions; for example, in case it were necessary to publish the fact, that certain members of the profession were "black-legs." If funds were required for any purpose instead of begging all that would be necessary would be for the executive to authorize a levy. Though when supported the resolution received considerable opposition, the chairman of the council strongly objected and said it was impossible to use powers honestly as a trade-union and that the carrying out of the proposal would split the association from end to end. The solicitor of the association pointed out that there were great legal difficulties. In the first place, the association should be wound up. Under their memorandum of association they were registered as a scientific association and existed for certain purposes limited by that memorandum. They were impressed with the trust for those objects and could not properly utilize their funds for trade-union purposes. Then with regard to the *British Medical Journal* he knew of no authority for a trade-union to run a journal on the lines of the British Medical Association; therefore that would have to be put into a separate trust. A motion to postpone the question for a year was carried.

Sir Clifford Allbutt's Criticism of the National Insurance Act

In a letter to the *Times* Sir Clifford Allbutt expresses a fear lest the insurance should "stereotype a kind of practice which, if not artificially revived, is dying down—the popular practice of pill and potion on rule-of-thumb diagnosis." In chronic disease reparative medicine is a stay and a consolation; in acute disease it saves individual lives, and soothes when it cannot save; in mild and transient cases it often makes a shorter way back to health. All this is good, but it is a Partingtonian mop when flourished before the battalions of disease. If the insurance act is to reduce sickness in the bulk, the act must do more than bring aid to individuals; it must create a preventive medicine by promoting researches into the causes of diseases and the means of prevention. His fear is that the act will prove an example of "our inveterate habit of ignoring causes and throwing all our strength into the mopping up of consequences."

The Parliamentary Committee on Nostrums

Mr. E. F. Harrison, who had analyzed the nostrums for the book "Secret Remedies," published by the British Medical Association, testified that there was a constant succession of nostrums being produced, amounting to about one new one per week. Dr. Mary Sturge, on behalf of the British Medical Association, gave evidence on the subject of "medicated wines." The widely accepted definition of these as "wines so medicated as to be unfit for use as beverages" did not apply to widely advertised ones on the market. The alcoholic strength of these preparations was 16 to 20 per cent., so that they were approximately on the level of port wine. The cocoa wines contained the strong alkaloid, cocain; to others various salts and meat extracts were added. The fancy names given avoided any hint that they contained alcohol. The association urged that as these wines were taken freely by the public the proportion of alcohol should be stated on the label. Emphasis was laid in the advertisements on the amount of nutriment present, but analysis showed that the proportion of meat extract was nothing approaching that contained in beef tea. The advertisements were misleading in that they laid greater stress on the meat extract than the proportion warranted and said nothing about the proportion of alcohol present in such considerable proportions. They were taken by teetotalers and were given to children under the belief that they were non-alcoholic. In certain cases they had produced inebriety. In one case a young lady who had been drinking daily three bottles of a widely advertised meat wine was found in a condition bordering on delirium tremens.

Mr. P. Macleod Yearsley, F.R.C.S. (aurist), spoke on deafness "cures." He divided advertisements addressed to sufferers from diseases of the ear into two groups: (1) those which promised to cure all forms of deafness "without operation" by drugs, and (2) those having for their object the sale of some appliance. The favorite method was to treat by correspondence and to charge sums for worthless plasters, drops, snuffs and the like. He mentioned deafness "cures" which contained petrolatum, beeswax, soap, glycerin, oil and turpentine. These might appear harmless but were capable of considerable mischief. Oil dropped into the ear would tend to become rancid and so act as an irritant. The appliances advertised were mostly vibrators and "artificial ear-drums." Vibrator massage was of value in one or perhaps two forms of deafness, provided it was used under skilled supervision, but carelessly applied it might do more harm than good. Most

of the widely advertised artificial drums consisted of rubber disks with a metal stem and were obsolete and useless. Sometimes they were put in by the patient and lost. They then had to be removed under anesthesia from ear-passages swollen with inflammation and bathed in foul pus. He had seen discharging ears in which rubber drums had been inserted and kept for days; the foul condition of the aural passages was indescribable. New advertisements of deafness cures were constantly being issued and the same remedies constantly appeared under new names.

Sir Malcolm Morris gave evidence on behalf of the British Medical Association and the dermatologic section of the Royal Society of Medicine. He said that many of the advertised remedies for diseases of the skin did harm by exciting inflammation. In cases of cancer valuable time was lost in trying useless remedies until the disease became incurable. Some of the internal remedies produced drug eruptions and so increased the patient's sufferings. The mere publication of the formula would not be sufficient protection of the public because the majority of people would not understand it. He suggested that all remedies should be submitted to a special board for analysis and that advertisements for the treatment of disease should be submitted to the same board, who would act as censors and forbid as far as possible untruthful advertisements from appearing. When they did appear the public prosecutor should act. The board should consist of three persons: a chemist who would analyze substances, a physician of experience and an independent person, probably a lawyer. His reasons for these suggestions were: 1. The state recognized a special responsibility for the health of the people. 2. There was nothing as to which people were so prejudiced as secret remedies. 3. The majority of people could not discriminate between valid and worthless remedies.

The Two Hundred and Fiftieth Anniversary of the Royal Society

The two hundred and fiftieth anniversary of this famous society, the origin and development of which were described some time ago in THE JOURNAL (The Royal Society, THE JOURNAL A.M.A., April 6, 1912, p. 1016), has been celebrated. Delegates from all over the world to the number of 200 attended to offer the congratulations of scientific societies and universities. After formally welcoming the delegates Sir Archibald Geikie, the celebrated geologist, pointed out that at the time of its foundation it was the only scientific society in the country; but since that time the progress of science had necessitated that every great department of research should have a society of its own.

The National Insurance Act

It may be remembered that one of the points of contention between the profession and the government is the remuneration for services under the national insurance act. The government offers a capitation sum of 6 shillings ($1.50) per annum for medical attendance and drugs, which it asserts is an advance on the sum generally paid by friendly societies (4 shillings or $1). The British Medical Association replied that the present condition of friendly society work is unsatisfactory and semi-charitable and must not be taken as a basis. Moreover, it includes only selected lives. A capitation fee of 8 shillings and sixpence ($2), without drugs, as well as a list of extras for operations, etc. (given in a previous letter), is demanded. The Chancellor of the Exchequer replied that the government was willing to consider the question of increasing the remuneration if the demands were justified, but could not hold out any hope that those put forward could be granted, as they would involve an increased charge on the exchequer of $20,000,000 per annum and, he contended, would amount to guaranteeing to each physician an assured income of $5,000 per annum. The calculation on which he based the latter figure was disputed by the British Medical Association. As a means of settling the difficulty he proposed to appoint an accountant to investigate the accounts of physicians in a number of towns in order to ascertain what are the actual earnings of the profession and how it would be affected by the insurance act. With the concurrence of the association this has been done. The accountant reports that in five selected towns with an aggregate population of 404,184 served by 214 physicians, 539,616 visits or attendances at the physicians' offices were made and medicines supplied (except in the case of one town in Scotland, where the English custom of the physician supplying medicine does not exist) for which £80,776 ($400,000) were received. With operations, sums obtained for certificates, public and other medical appointments and coroners' fees the gross income amounted to £110,900 ($550,000) or 5 shillings and sixpence ($1.50) per head of the population. In addition, for work done outside the towns in question the physicians received £20,790 ($100,000), bringing the gross remuneration up to $650,000. Before the issue of this report the British Medical Association pointed out that the figures could not be taken simply as basis for the national insurance act. Greater demands would be made on the profession under the act, as attendances paid by capitation would involve no personal charges on the insured. Moreover, the remuneration of the poorer patients under the present system is more or less insufficient and often on a semicharitable basis. The organization of the profession against the act is now very complete, as practical unanimity to resist it has been attained; but while no difference of opinion exists as regards objects, some critics think that trades-union methods are being carried too far. The original pledge not to practice under the act except on terms accepted by the British Medical Association, and the supplemental pledge placing the resignation of all contract work in the hands of the association to be used if necessary have been described in previous letters. In a recent editorial the *British Medical Journal* advises the non-employment of any locum-tenens or assistant who has not signed the pledge, and also enjoins the members of hospital staffs who are concerned in the selection of candidates for resident appointments to observe the same rule. *Guy's Hospital Gazette* twits the association on the ground that it has adopted a policy hitherto associated with dockers, miners and other laborers, and says that the policy is analogous to the physical intimidation of industrial disputes. It condemns the attempt to take advantage of the position of the recently qualified man on the outlook for appointments in order to compel him to sign a pledge with which he may not be in agreement. The adoption of trade-union methods has caused trouble in another matter. The Brighton education authority recently appointed a whole-time school medical officer at a salary to which no objections were taken. But as his duties included treatment as well as inspection of school children, the appointment was contrary to "Minute 97" of the British Medical Association and the appointment was condemned by the Brighton division. The chairman of the division protested that interference by the association could not be fairly used beyond ensuring that the appointment was properly paid and that the question of employing a whole-time doctor for the discharge of its responsibilities was entirely a question for the Brighton Education Committee. He hoped that a wide difference of opinion on this point would not be incompatible with continued membership in the association. As a large majority of the branch, however, as well as the medical secretary of the association, condemned the appointment, he came to the conclusion that his only course was to resign his chairmanship as well as membership in the association. He points out that apart from considerations of justice, it is unwise for the association to adopt a policy which is an incitement to all physicians who intend to occupy themselves with public health to hold aloof from the association.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, July 19, 1912.

Election of Two Foreign Associates to the Academy of Medicine

On July 16, out of a list of nominations including Sir William Ramsay of London, Flügge of Berlin, Osler of Oxford, J. Reverdin of Geneva, Durante of Rome and Kitasato of Tokio, the Académie de médecine elected Sir William Ramsay and J. Reverdin as foreign associates.

Death of Professor Monoyer

The death is announced at Lyons of Dr. Monoyer, former professor at the Faculté de médecine of that city. His specialty was ophthalmology. He served in the Franco-Prussian War as ambulance surgeon. Before the war he had been an *agrégé* at Nancy; when annexation took place he left Alsace and followed the school when it was transferred to Nancy. Some years later he accepted the chair at Lyons when the Ecole de médecine at that city was made a *faculté*.

Cheap Lodgings

The bill has been presented providing for the loan of $40,000,000 (200,000,000 francs) voted by the municipal council of Paris for the construction of cheap lodgings. Out of that loan the city of Paris will lend the sum of $10,000,000 to societies organized for the construction of cheap lodgings. The remainder is to be used by the city in the construction, acquisition or sanitation of buildings containing lodgings reserved, up to two-

thirds of the rented value, for families having more than three children under 16.

M. Charles Stern has just erected in Paris a group of workingmen's dwellings constructed on hygienic principles and containing 109 apartments, all opening on the street or garden. The number of occupants is 408; of these 175 are children. The two-room apartments rent for $50 (250 francs); the three-room apartments, $65; four-room apartments, $79. An entire novelty is the provision that every tenant who has another child shall pay no rent for the term following the birth. The purpose of the philanthropy is double. On the one hand it furnishes laborers with sanitary dwellings at reasonable prices and on the other, the net revenues amounting to about 3 per cent. are devoted to the maintenance of a mothers' canteen where free breakfast and dinner are given to every mother who nurses her own child.

Red Cross Flag Days

At the time of the national festival the Société française de secours aux blessés militaires put on sale a little tricolored flag bearing the insignia of the French red cross, with on one face the word *Maroc* ("Morocco") and on the other "Société française de secours aux blessés militaires." During July 13 and 14, a little more than 2,000,000 of these tricolored flags were sold. The proceeds of the sale, which in Paris alone amounted to $55,000, are to be devoted to the purchase of clothes, linen, etc., for the French soldiers in Morocco.

The Doctorate of the University of Paris and Surgeon-Dentists

For some time surgeon-dentists have been endeavoring in vain to obtain either the special diploma of doctor of dental surgery or concessions which would favor their securing the degree of doctor of medicine. They have now adopted the ingenious device of studying for the diploma of doctor of the university of Paris, which requires only two years. This is not a government doctorate. It does not permit the holder to practice medicine, but in the eyes of the public the degree seems the same as that of the government. The Syndicat médical de Paris is much disturbed by this condition. The medical profession is against the creation of special diplomas. The surgeon-dentists have the right of practicing a part of medicine and of the employing therapeutic means including general anesthetics; to permit them to acquire easily the diploma of doctor of the university would lead to a regrettable confusion with the degree of doctor of medicine and might become to some extent a public danger. What is permitted to-day for surgeon-dentists may to-morrow be allowed to radiographers, masseurs, etc. The Syndicat médical de Paris, therefore, has resolved that the doctorate of the university ought to be reserved, according to the spirit of the law, for savants and especially foreigners.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, July 19, 1912.

Personal

Professor von Krehl of Heidelberg has declined the call to Munich.

Professor Hertel of Strasburg will not accept the call to Marburg.

Prof. Hugo Neumann, the well-known pediatrist, died in Berlin, July 12, at the age of 53. His services were chiefly in infant hygiene, a field in which he was to a great extent a pioneer. Through his especially favorable position he was financially independent and devoted himself particularly to the service of the poor. He established a large policlinic in which, under his direction, children were treated by several specialists; it also contained a clinic for hospital treatment, and a lying-in home which served for the training of nurses for service among the well-to-do. Professor Neumann devoted his special attention to illegitimate children; he watched over a large number of Berlin foundlings until they reached puberty, and the results are of sociologic value. As a consultant he was very popular. His text-book of children's diseases, written in the form of letters, has reached several editions.

German University Statistics

The number of students at the twenty-one German universities has increased during the summer semester and amounts to about 59,500, some 2,300 more than for the previous year. (Since the summer of 1896 the number has doubled.) There is an increase of about 1,480 among medical students, which is a doubling within the last five years. The Prussian universities have a larger increase in the number of students than those in southern Germany. Berlin has the largest number of students, 8,200; Rostock, the smallest, 975.

A National Health Department in Saxony

June 1 the superior health magistracy of Saxony, the *Landesmedizinalkollegium*, was substantially extended and converted into a national health department. Its field includes the making of reports on matters of medical and veterinary interest, the advice of the government in the preparation and execution of sanitary laws, and the supervision and management of the scientific institutes subordinate to it.

Central Committee for Medical Postgraduate Instruction in Prussia

According to the annual report which was presented a short time ago in Berlin to the general meeting of the central committee (under the leadership of Waldeyer), there are at present in Prussia local associations in thirty-two cities (in the whole of Germany in sixty-seven cities) in which free medical postgraduate courses and lectures are regularly conducted. The international committee for medical postgraduate instruction will hold a conference in London next year, at which important questions with reference to medical education and postgraduate instruction will be discussed. Fifteen per cent. of Prussian physicians participate in the Prussian postgraduate courses. In order to afford more frequent opportunity for physicians in the smaller cities and in the country to secure postgraduate instruction, traveling lectures are to be arranged in groups, in which a number of privat-docents of a large city shall go alternately to the smaller places in their neighborhood at regular intervals and deliver instructive lectures and demonstrations.

Protest of Munich Students Against the Oversupply of Russian Students

In Munich, June 28, a meeting, attended by about 2,000 students mostly medical, entered an energetic protest against the displacement of German students by the favor shown to Russian students especially by the medical faculty. The abuses which exist in the Munich medical clinics were sharply criticized by the speakers. The second medical clinic (under the direction of Prof. F. von Müller) is generally designated as "the Russian casino." Of 876 foreign students of the university of Munich, 247 are Russians. In the discussion it was emphasized that this movement was conducted neither from chauvinistic nor sectarian motives, but was directed against those elements which are debarred from progress in their own country. At the close of the meeting the following resolutions were adopted: (1) The number of Russian students should be limited, not only for the university in general, but especially to a corresponding extent in relation to the medical school. (2) The further acceptance of Russians as matriculants should be made to depend on a certificate that the candidate is of age, which shall be presented in a German translation, officially certified, and shall correspond at least to the requirements of the German empire. The qualification is to be tested officially. (3) Admission to the university and the permission to take the examination for a doctor's degree are to depend on the presentation of an official German certificate of an examination passed in the German language. (4) Foreigners must, as is already the case in certain universities, pay a higher matriculation fee, and an addition to the fee payable by every student to the state. This amounts in Bavaria, if 50 per cent. of the state fee be added, to a tuition of $125.00 (500 M) per semester. (5) The registration for all lectures and practical exercises must be made in the case of foreigners two weeks after the beginning of the semester, and only in a separate list. (6) In the case of lack of seats in the auditorium, it should be forbidden to the Russians to engage seats. The first four rows of every auditorium shall be reserved for students from the German empire. (7) Russians must be held strictly to the plan of courses of students given out by the medical faculty; especially, in order to avoid inconveniencing the German students, it shall be forbidden them to register for clinical lectures and practical exercises before their fifth semester. (8) The employment of Russian students as assistants and volunteer physicians is to be forbidden as long as German students who have taken the examination prescribed by the state apply in sufficient number for these places. Foreigners from localities where they speak German are preferred to other foreigners; especially if they are sons of German parents and in a foreign country, they are not to be regarded as foreigners. These resolutions are to be presented to the medical faculty and to the rectorate and senate of the university, to the two houses of parliament and to the national government for consideration.

Deaths

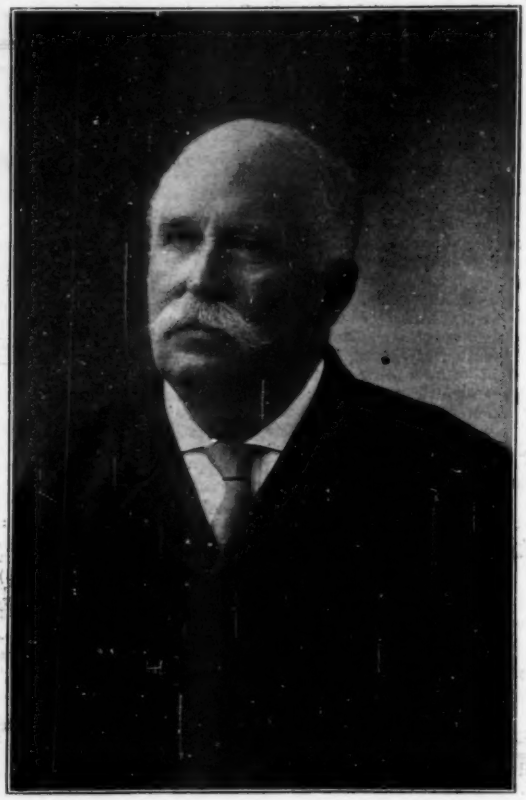
Maurice Howe Richardson, M.D., one of the foremost surgeons of the United States, was found dead in his bed in Boston, July 31, aged 60. He was born in Athol, Mass., Dec. 31, 1851, the son of Nathan Henry and Martha Ann (Barber) Richardson. He attended the public school of Athol and Fitchburg High School, and entered Harvard University in 1869 from which he graduated with the degree of A.B. in 1873. After a four-years course in Harvard Medical School he was graduated in 1877. During his last year in medical college, Dr. Richardson was assistant in anatomy under Dr. Oliver Wendell Holmes, occupying this position for two years. He was then made demonstrator of anatomy and served until 1887, and thereafter was assistant professor of anatomy until 1892. From 1883 to 1887 he was assistant in surgery; in 1895 he was made assistant professor of clinical surgery; in 1902 associate professor of clinical surgery and from 1903 until his death was Mosely professor of clinical surgery.

He had been a member of the staff of the Massachusetts General Hospital since 1881, and was made surgeon-in-chief in 1910. Among his other hospital appointments were those of district physician and physician to the Boston Dispensary; surgeon to the out-patient department of the Boston City Hospital and Carney Hospital, and physician to the House of the Good Samaritan.

His society membership included the American Medical Association; American Surgical Association, of which he was president in 1902; American Academy of Medicine; Southern Surgical and Gynecological Association and Boylston Medical Society, of which he was once president.

Dr. Richardson was a prolific contributor to the literature of surgery and contributed sections to Park's "Surgery by American Authors" and Dennis' "System of Surgery."

He was not only a great surgeon, but also a big, warm-hearted man, lovable and beloved. As a teacher he made anatomy interesting and attractive, illustrating his lectures by crayon pictures rapidly and artistically drawn. His knowledge of anatomy and his manual dexterity united to make him a great surgeon and he was one of the few who keep clinical records and keep them well so that they may benefit others. He had a strong sense of his responsibility to and for his patients, and while conscious of his skill, he used it soberly and without self-assertion.



MAURICE HOWE RICHARDSON, 1851—1912

Dr. Richardson's funeral was held at King's Chapel. The honorary pallbearers included the president of Harvard University; Dr. H. P. Walcott, president of the Massachusetts General Hospital, and Drs. F. B. Harrington, S. J. Mixter, F. C. Shattock and W. F. Whitney of the staff of the hospital; Dr. Frederick S. Dennis, New York City, and Dr. George Ben Johnston, Richmond, Va. The ushers at the church were former assistants of Dr. Richardson and the acting pallbearers were Drs. John Bapst Blake, Arthur H. Crosbie, F. E. Garland, Howard A. Lathrop, Charles G. Mixter, William J. Mixter, Edward H. Risley and George M. Sheehan, all of whom had been closely associated with Dr. Richardson in his work.

James Anderson Exton, M.D. College of Physicians and Surgeons, New York City, 1866; a member of the American Medical Association and American Public Health Association; a veteran of the Civil War; founder and president of the Hudson County (N. J.) Medical Milk Commission; consulting physician to St. James Hospital, Newark; health officer of the town of Kearny; local surgeon for the Erie railroad and secretary of the New Jersey Sanitary Association; died at his home in Arlington, N. J., July 25, from cerebral hemorrhage, aged 67.

Dwight Edward Burlingame, M.D. Chicago Medical College, 1869; a member of the American Medical Association, Elgin Physicians' Club and Fox River Medical Society; surgeon to St. Joseph's Hospital and Sherman Hospital, Elgin, Ill., and local surgeon of the Chicago and Northwestern Railway; died at his home in Elgin, August 4, from cerebral hemorrhage, aged 69.

Elnathan Kemper Westfall, M.D. Hahnemann Medical College, 1867; a veteran of the Civil War; since 1869 a practitioner of Bushnell; for three terms postmaster; once alderman and for several terms a member of the board of education; a member of the state legislature for two terms; died at his home, in Bushnell, July 20, from cerebral hemorrhage, aged 73.

James L. Lowrie, M.D. Jefferson Medical College, 1878; a member of the Illinois State Medical Society; president of the Logan County Medical Society; formerly president and secretary of the Brainard District Medical Society; city physician of Lincoln; died at his home in that city, July 23, from angina pectoris, aged 58.

Delos Burd Manchester, M.D. University of Buffalo (N. Y.) 1883; a member of the American Medical Association; for many years a practitioner of Oneonta, N. Y., but later a resident of Grant's Pass, Ore.; died at the home of his brother, near Schenevus, N. Y., July 21, aged 54.

John A. Armstrong, M.D. Jefferson Medical College, 1867; a member of the Medical Society of the State of Pennsylvania and a veteran of the Civil War; for forty-five years a practitioner of Leechburg; died at his home, July 24, from cerebral hemorrhage, aged 74.

J. Merrill Hamblin, M.D. American Medical College, Eclectic, St. Louis, 1875; formerly of Westboro, Mo., but later a practitioner of Shenandoah, Ia.; died at the Burlington Junction Mineral Springs Sanitarium, July 21, from heart disease, aged 61.

Harriet C. L. Hopkins, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1869; of Plainfield, N. J.; for about twenty-five years a practitioner of Philadelphia; died at Mount Vision, N. Y., July 24, from senile debility, aged 81.

Daniel A. Muirhead, M.D. McGill University, Montreal, 1889; of Carleton Place, Ont.; one of the best known practitioners of Ottawa Valley; aged 50; was killed, July 23, near North Gower by being crushed under an overturned automobile.

George M. Anderson, M.D. Atlanta (Ga.) Medical College, 1874; a member of the State Medical Association of Texas; surgeon in the Confederate service throughout the Civil War; died at his home, in Tanglewood, July 18, aged 75.

William Hopkins Prudden, M.D. University of Buffalo (N. Y.) 1905; of New York City; died in Roosevelt Hospital, July 24, several days after an operation for appendicitis, aged 30.

William E. Wood, M.D. Eclectic Medical Institute, Cincinnati, 1891; died suddenly at his home, in St. Louis, July 23, aged 49.

John Light Atlee, M.D. University of Pennsylvania, Philadelphia, 1853; since 1856 a practitioner of Tennessee; one of the most esteemed physicians of Chattanooga; died at his home, July 23, from senile debility, aged 80.

Joseph H. Clark, M.D. University of Louisville (Ky.) 1879; formerly a practitioner of Marion, Ky., but since 1898 a resident of Princeton, Ind.; died at his home in that city about July 22, from cerebral hemorrhage, aged 69.

John W. Aiken (license, Illinois, years of practice, 1878); for more than half a century a practitioner of Tennessee, Ill.; died in the Marietta Phelps Hospital, Macomb, Ill., July 25, from cerebral hemorrhage, aged about 80.

Otis C. Hollister, M.D. Chicago Medical College, 1885; of Portland, Ore.; a member of the American Medical Association; died in St. Vincent's Hospital, Portland, July 17, from nephritis, aged 49.

Martial A. Scharton, M.D. Yale University, New Haven, Conn., 1893; formerly a practitioner of Hartford, but later a resident of New York City; died July 18, in New York City, after a long illness.

Joseph Bozeman Letcher, M.D. Tulane University, New Orleans, 1891; a member of the American Medical Association; died at his home in Shorter's, Ala., July 19, from tuberculosis, aged 37.

James Murray Thompson, M.D. Baltimore, 1870; a Confederate veteran; and a member of the State Medical Association of Texas; died at his home in Cuero, June 5, from heart disease, aged 66.

James Walter Williams, M.D. Howard University, Washington, D. C., 1892; a colored practitioner; formerly of Savannah, Ga.; died in Chickasha, Okla., July 24, from cirrhosis of the liver, aged 44.

Edwin Ricker Freeman, M.D. Eclectic Medical Institute, Cincinnati, 1889; professor of dermatology in his alma mater; died in the Cincinnati City Hospital, July 26, from sarcoma, aged 46.

William W. Moore, M.D. Eclectic Medical Institute, Cincinnati, 1861; a Confederate veteran; president of the First National Bank of Summit, Miss.; died at his home, July 18, aged 74.

Heerke H. Viersen, M.D. State University of Iowa, Iowa City, 1873; of Pella, Ia.; a member of the American Medical Association; died in Mercy Hospital, Des Moines, July 28, aged 73.

Christian R. Ramsbrok, M.D. University of Louisville, Ky., 1892; a member of the American Medical Association; died at his home in Huntingburg, Ind., July 21, from pneumonia, aged 41.

Thomas Joel Smith, M.D. Medical College of Ohio, Cincinnati, 1872; a member of the Illinois State Medical Society; died at his home in Pleasant Hill, July 19, aged 67.

John Joseph Lawlor, M.D. Baltimore (Md.) Medical College, 1897; examining surgeon during the Spanish-American War; died at his home in Lawrence, Mass., July 8.

George S. Morris, M.D. Medical College of Ohio, Cincinnati, 1881; was found dead in his office in Arkansas City, Kan., July 26, from cerebral hemorrhage, aged 61.

Henry W. Moore, M.D. Columbus (O.) Medical College, 1885; of Milan, O.; died at the Winyah Sanatorium, Asheville, N. C., July 24, aged 50.

Minor S. Gray (license, Mississippi, 1903); of Cayce; died in St. Joseph's Hospital, Memphis, Tenn., July 23, aged 34.

Marriages

PAUL HECTOR PROVANDIE, M.D., Melrose Highlands, Mass., to Miss Margaret Flora Bell of Collingwood, Ont., July 22.

PALMER EDMUND BRANDON, M.D., Sioux Falls, S. Dak., to Miss Fanny Elizabeth Marshall of Chicago, July 30.

JOHN SWIFT BAKER, JR., M.D., Boston, to Miss Anna Greenleaf Winsor of Chestnut Hill, Mass., June 20.

BERNARD PHILIP HERZOG, M.D., Baltimore, to Miss Lucille Doerner of Cumberland, Md., July 30.

MILO E. HARTMAN, M.D., to Miss Violet Davis, both of Kansas City, Mo., July 27.

WILLIAM A. KNELL, M.D., to Miss Lillian A. McKewen, both of Baltimore, July 23.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

CERTIFIED PHARMACIES

As the demand for a high-grade milk has given us "certified" milk, so the demand for high-grade, competent and reliable pharmacies—pharmacies where a physician may send his prescriptions with the assurance that they will be compounded conscientiously—promises to lead to the establishment or recognition of "certified" pharmacies. The pharmaceutic profession no less than the medical profession has long recognized that many who are licensed to conduct a "drug-store" are not equipped to compound prescriptions. While it is generally conceded that the amount of real drug business is not sufficient to furnish a livelihood for more than an extremely small portion of those engaged in it, there is an opportunity for a limited number to conduct high-class pharmacies, and many schemes have been proposed for establishing some sort of dividing line between ordinary drug-stores and real pharmacies.

The plan of examining pharmacies and issuing licenses to those which meet the requirements, urged by M. I. Wilbert some ten years ago, was recently again proposed at a joint meeting of the Medical Society of the County of New York and the New York branch of the American Pharmaceutical Association, and it was decided that a committee to consist of ten members from each society should draw up regulations or requirements for the "certification" of pharmacies.

At this meeting one of the speakers made the point that a physician knows the reliable pharmacies in his own neighborhood but is entirely at sea when away from home, and that there should be some method of certifying to pharmacies at which physicians can have absolute confidence that their prescriptions will be compounded correctly and with the skill and care of the properly trained pharmacist whose business is conducted in accordance with medical and pharmaceutic ethics.

While the establishment of requirements for such certifications should be carefully considered, the need of a dividing line between the druggist whose energies are chiefly devoted to the sale of cigars, chewing-gum, soda-water and patent medicines, and the pharmacist to whom one may safely entrust the compounding of prescriptions is so urgent that we shall look forward to the outcome with much interest. We are reminded at this time that physicians have long attempted through consultations and discussions—generally informal—to gain information regarding the qualifications of pharmacists in the various parts of the town or city in which they practice.

MIDOL AND NURITO

Pyramidon Entering the Patent-Medicine Field

MIDOL

Repeated warnings to the public of the dangers of acetanilid, antipyrin and acetphenetidin and the requirement in the Food and Drugs Act which makes it obligatory to declare the presence of acetanilid and acetphenetidin on the labels of "patent medicines," have been responsible for the growing unpopularity of nostrums containing these drugs.

During the past few months advertisements have appeared in the newspapers of a new "headache cure," the advertising slogan of which is that it "contains no acetanilid or phenacetin."

The name of this preparation is Midol and it is sold under the following claims:

"Instantly relieves headache, neuralgia, toothache."
"Has no depressing effect."
"More effective than antipyrin, acetanilid, phenacetin or similar pain-relieving products."
"Midol is the one safe-to-take aid of sufferers of headache."
"Quickly relieves pain of whatever nature."

"There is no cumulative action."
"No bad effect upon the heart or other organs."

An original package of Midol was purchased and examined in the Association's laboratory. The chemists' report follows:

"Midol is sold in the form of white tablets each weighing, on an average, 0.425 gm. or about six and one-half grains. The tablets are soluble in water, chloroform or benzene to the extent of about 80 per cent. The soluble portion appeared to be largely composed of starch, with about 4.5 per cent. of some inorganic matter, probably talc. The chloroform soluble portion was found to consist chiefly of pyramidon chemically known as dimethyl-dimethylamino-pyrazolon. Besides pyramidon, the chloroform soluble matter contained a small quantity of caffein and may have contained small amounts of other substances.

"From examination it is concluded that Midol depends essentially on pyramidon for its therapeutic effect."

Pyramidon is a proprietary preparation derived from, and having the antipyretic and anodyne properties of, antipyrin. While some observers have asserted that it is more likely to cause collapse than are either antipyrin or acetphenetidin there is no positive evidence of this assertion. That the use of pyramidon has been until recently practically restricted to physicians may account for the fact that its toxic effects are not as well known as are those of antipyrin, acetphenetidin, acetanilid, etc., which for some years have been indiscriminately used by the public. As the use of pyramidon as a "patent medicine" now bids fair to become as general as the better known antipyretics, it is probable that its toxicology will become better known.

It is interesting to note that pyramidon in the form of Midol is put on the American market by the General Drug Company, which also acts as a distributor of salvarsan ("606"). The General Drug Company is said to have for its president, W. M. Hoge, who was formerly employed in the comptroller's office during the administration of Herman A. Metz. The vice-president and treasurer of the General Drug Company is Dr. Gustave P. Metz, brother of H. A. Metz, the latter being employed by the Consolidated Color and Chemical Works and being president of Victor Koechl & Co. The General Drug Company, in its price list to physicians, lists the "ethical proprietary" pyramidon, but contains no mention of its "patent medicine" Midol.

NURITO

Midol is not the only "patent medicine" in which pyramidon is the essential drug. Nurito, which is advertised as "not a patent medicine but a proprietary preparation" is a nostrum put on the market by the Magistral Chemical Co., New York. Here are some of the claims:

"Only U. S. P. ingredients are used in Nurito."
"Guaranteed to relieve or your money refunded, Rheumatism, Sciatica, Neuritis."
"There is no compound known in medicine that so rationally, scientifically and effectively removes waste and poisons from the human system as Nurito."

The Association's laboratory recently analyzed a specimen of Nurito. The report follows:

A dollar-size package of Nurito was purchased and found to contain seven powders. The powders ranged in weight from 9 to 12 grains, the average weight being nearly 11 grains. The presence of pyramidon, phenolphthalein and milk sugar was demonstrated. Alkaloids, acetanilid, acetphenetidin, chlorids, bromids, iodids, heavy metals, starch and sulphates were absent. Quantitative examination indicated that the composition of Nurito is essentially as follows:

Milk sugar	34 per cent.
Phenolphthalein	6 per cent.
Pyramidon	60 per cent.

Each powder, therefore, contains about 2⅔ grains of milk sugar, ⅔ of a grain of phenolphthalein and 6⅔ grains of pyramidon.

What was said of pyramidon in the preceding article applies equally well here. The claim that Nurito is composed of "U. S. P. ingredients" is evidently a falsehood. The chief therapeutic ingredients are pyramidon and phenolphthalein, neither of which is described in the United States Pharmacopeia.

Correspondence

The Future Medical Journal

To the Editor:—*Vita brevis, ars longa*, and the disparity is constantly widening until time has become the most valuable factor in our undertakings. To adjust art to life, that is, to give the maximum of efficient, applicable instruction in the minimum quotient is the supreme desideratum to-day of all informatory literature. Preeminently does this apply to medical literature. To the general practitioner, whose work comprehends every angle of the circle of medicine, the task of keeping informed is an appalling one, and a crisis is before him. Manifestly the adjustment, or reformation, must come through the transformation of the medical journal. It must be condensed. It must be authoritative, abjuring theories and stating proved facts. Its nomenclature must be simplified, its terminology uniform. If these conditions are not met speedily the aspirations of high-class journals will be subverted and they will be supplanted by an inferior class. In part, this has already taken place. Inferior periodicals that aim to epitomize current progress in medicine are obtaining a wide distribution and some of them not only have a bona fide subscription list but have become the forum of ethical teachers. The inauspicious fact cannot be overlooked that firms having proprietary preparations largely control these publications. Recently one of these firms has sent to the profession gratis an epitome of diseases of the heart, written by an ethical physician, which is a model of explicit, graphic and easily grasped grouping of those conditions, in a stiff-covered, neat little brochure of fifty pages. The last two pages are devoted to advertising the firm's heart remedies. With like ulterior aims other firms are supplying the profession with monographs on other topics.

The physician who cannot read the very latest word on the etiology, diagnosis and treatment of disease is behind the times and cannot give good service to his patients, but it has come to pass that he cannot practice medicine and make a living if he faithfully reviews current medical literature. He needs, therefore, (1) a brief and portable working library containing the latest information in regard to methods, etc., pictured, grouped, classified and diagramed so that he who runs may read; (2) periodicals that reflect vividly only vital, essential world-wide knowledge, in precise and concise language with a nomenclature conforming to a definite, fixed standard of uniformity, lucidity and facility of recollection.

Our medical books and periodicals exhibit a veritable Sahara of words—a waste of space and time—the very essence of life. One-half the words could be erased from any given book or journal without invalidating or obscuring the sense of its contents. Sonorous, classical, rounded paragraphs of the eighteenth century style must be abandoned. Theories, obsolete or novel, rehashed and attenuated, diverting manifold allusions and references and confusing and conflicting views must be threshed out in special publications. Pictures—the briefest, simplest and most graphic adjustment of word and line—must fill the pages of our books and journals. Not rhetoric but the brief, cold words of science must prevail.

Here is a vast and fertile field for the proposed supplemental publication of the Association. A suggestion, with reference to its contents, may not be amiss. These should comprise:

1. A department of therapeutics and applied technic—everything within the means and capacity of the general physician, such as operative, mechanical, chemical, microscopic tests, the simpler laboratory operations for diagnosis, etc.

2. A wider review of the world's periodical literature.

3. A correspondence department confined to vital and obscure medical topics and limited in space.

4. Reviews of new medical books such as would afford a fair estimate of the worth of all new publications.

5. A brief summary of medical achievements, investigations and discoveries similar in scope to the editorials in THE JOURNAL, June 22, 1912.

6. Pertinent statistics and facts regarding the collective insane, epileptic, blind, crippled or deformed and criminals, such as would fairly reveal their present status, and the methods, means or modes of treatment and discipline with results. This department should include discussion of incipient insanity and the pathologic criminal and allied subjects which are particularly apropos to the general practitioner's everyday work.

7. Some sort of propaganda should be addressed to the physician himself and maintained for his personal reformation, for he needs it in several ways—personal, professional, business, social and others. To illustrate: More than half the prescriptions of physicians on file in the drug stores of the country call for proprietary preparations whose formulas are secret. The traits the doctor bewails in his patients are first cousins to his own. In other words, he is susceptible to the influence of advertisements and the alluring recommendations of fictitious notables with alphabetical titles. In passing the bureau of reform of the Association should send a few personal tracts to the doctors.

J. H. MACKAY, Francitas, Texas.

Beriberi Among the Filipinos

To the Editor:—It was my privilege to practice medicine for several years among the Filipinos before it had been demonstrated that beriberi was due primarily to highly polished rice, although natives and whites were agreed that Saigon rice was more conducive to the disease than any other. This is a grade imported from French China and greatly prized for its whiteness and large grains, and during my residence in the Philippines was extensively consumed.

As the real cause of beriberi was not known at that time and as my duties consisted chiefly in inspecting posts occupied by native troops, it became absolutely necessary to devise means whereby the spread of the disease could be checked. Close observation revealed the fact that the disease was more prevalent among those who were confined or housed in stone buildings that were more or less damp. One place where prisoners were kept was notorious; it was a stone compartment with an earth floor and nearly every person confined there was attacked. That was my first assignment and I did my best to clean the place up. I first removed every occupant and then fumigated, whitewashed and floored it with satisfactory but not absolute results, as other cases appeared from time to time until the place was abandoned. While the prisoners were confined in an upstairs room no further cases developed. One company of soldiers was quartered in an old Spanish fort and at least half of them had beriberi. The troops occupying wooden structures did not seem so susceptible. It appears now that these were simply predisposing causes, especially confinement and depression, which would naturally lead to intestinal disorders, thus paving the way for a prevalent disease; but at the time they strongly indicated an infectious nature.

Inspection of food also revealed the fact that the chief article of diet was white rice, and contrary to the rule the poor people in the immediate neighborhood, especially those in the provinces, were not affected. This is explained by the fact that the poor clean their rice in a crude fashion and are unable to destroy all of the pericarp, thus unwittingly protecting themselves from a serious disorder.

Three varieties, the acute, dry and wet, were encountered. The acute form had an abrupt onset with cardiac symptoms. One patient was attacked in the afternoon and died in great distress in less than twenty-four hours. There was loss of muscular power and reflexes and inspection of the heart indicated acute dilatation. Cases of the dry variety were of slower onset with weakness, generally beginning in the legs, more or less pain and progressive atrophy of the muscles. The moist variety was of even slower onset with first signs of edema in the legs. One patient I saw with extreme anasarca so that the skin broke in several places and serum exuded in great quantities. There is always a marked pallor that can be readily observed even in the darkest-skinned people. Nausea and vomiting are sometimes early symptoms.

The steps taken to eradicate the disease were segregation and dietary and medicinal treatment. Patients with beriberi were placed in floored tents and nurses were detailed to look after them and compel sanitation. The greatest difficulty encountered was in excluding rice from the diet. This was found to be impossible so that in the place of white rice, native cleaned rice was substituted and the quantity reduced. Vegetables of any obtainable variety were given with generous use of beans and a native pea (*Phascolus mungo*), which acted almost as a specific in certain cases. Fresh meat was given whenever it could be had with eggs and chicken oftener. Eating of fruit was encouraged.

My first acute case ended fatally before I could determine a course of treatment, but in succeeding cases morphin and digitalis seemed to work to perfection. In the dry variety tonics and massage of the muscles were resorted to. Recovery was not complete in a great number of cases but under the circumstances even partial recovery was greatly appreciated. Most of the soldiers who had had the disease could be readily picked out by their peculiar walk.

In the wet form I always employed large doses of magnesium sulphate until pitting on pressure of the legs disappeared. This edema of the legs was one of the first signs always looked for. In some very severe cases it became necessary to drain off the serum on several occasions. A tonic of iron, quinin and strychnin was given as routine treatment.

With the establishment of hygienic quarters, compulsory bathing and the addition of vegetables, especially of beans and mungos to the diet, the number of cases in my district rapidly diminished and during my last year of service I saw but few cases among the soldiers and prisoners under my care. There were a few instances, however, of a recurring form of the moist variety in certain soldiers that manifested itself after an expedition or a prolonged march, but were amenable to treatment and all symptoms would disappear in a few days after a rigorous course of magnesium sulphate and a proper diet.

C. E. LAWS, M.D., DuPont, Wash.

Beriberi and Beans

To the Editor:—I have followed with much interest your comments on beriberi in recent numbers of THE JOURNAL. My article in THE JOURNAL, May 30, 1908 (p. 1785), while it does not lay claim to laboratory accuracy, does chronicle eight patients with beriberi taken from a Dutch ship in San Francisco Bay, all of whom had been fed for several months previously on a diet of small white beans. If beans are the cure, will some member of the primary class explain to me how and why my Dutch sailors contracted beriberi?

J. N. FORCE, Berkeley, Cal.

Comment.—The present stage of our knowledge regarding the etiology of familiar types of peripheral neuritis, such as beriberi, will scarcely permit any final pronouncement. The important points to bear in mind are the fact that the bacterial origin of these maladies is at present discredited, and that the symptoms may be, and doubtless usually are, the result of a lack of some essential element in the dietary rather than the consequence of the presence of a toxic compound. In the cases reported by Dr. Force, the fact is brought out that the beans were moldy. It is accordingly quite conceivable that a toxic product was present in sufficient amount to overcome the beriberi-preventing action usually attributed to beans. However, it is also not at all unlikely that the long-continued use of a very limited, unvaried diet, such as that to which Dr. Force's patients had been subjected, may have ultimately depleted the store of some essential dietary constituent or may, by the inappropriate selection of the food materials, have induced trouble through an improper balance of accessory factors in the diet. An allusion to something of this sort will be found in editorials in THE JOURNAL on "The Effects of Exclusive Feeding—Experimental Scurvy" (July 20, 1912, p. 198) and "Acid-Forming

and Base-Forming Foods" (July 27, 1912, p. 278). It must not be assumed that polished rice affords the only illustration of a defective diet. The curious circumstance in the cases quoted by our correspondent lies in the presence of the supposedly remedial beans. The efficiency of the latter may, however, express itself only in the presence of inadequate food like milled rice, whereas there is no scientific inconsistency on the other hand in assuming a nutritive inappropriateness of a dietary largely made up of white beans. Unquestionably more than one factor is concerned in the maintenance of that nutritive equilibrium which is expressed in good health.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CHARGING A BROTHER PRACTITIONER FOR SERVICES

Correspondence, too extensive to print in full, has been submitted with the request that we comment on the ethics of the question presented. In brief, these letters show the following:

Dr. S, as consultant, was asked to visit the wife of Dr. B, "a total stranger" to S, living at some distance from the city where S is located. S, who "had a good deal of work laid out for that day," postponed this and responded to B's call; he left home "at 6:30 in the morning and did not get back until 10:30 at night." The call came to S through a third physician who after a telephone communication with "some one representing . . . [B's] family," advised S that B wished to compensate him for the consultation. Some time later B received a statement from S for services rendered, whereupon B wrote a letter to S in which he did not express any appreciation for what S had done for him, but spoke of the statement as a "dun" and asserted: "When you were at my house, I asked you what I owed you and you said 'Not a cent.'" S answered this letter: "When you mentioned the bill as we were leaving your house, I replied: 'Do not bother about that now' for I knew your distress of mind over the illness of your wife." B "always understood that it was not customary or professional ethics to charge a brother practitioner for services rendered to his family" and objected to the amount S asked: "He has charged me as much as any one outside the profession." To this S replied: "My charge to you did not compensate me for time lost here, and my charge for consultation at points as distant as X would be "— about three times the amount asked. S and B closed their letters each by commenting on the other's lack of kindliness and courtesy.

ANSWER.—A physician has no intrinsic "right" to the service of another physician. Yet it is a fitting professional courtesy that a physician cheerfully and gratuitously render whatever professional service may be asked of him by a neighboring physician for the care of that physician or one of his family dependents. It must be remembered, however, that for a physician to examine and advise a patient at his office or while making a round of calls in his home town is very different from the physician foregoing a day's work, with its actual financial returns as well as its opportunities for future practice, and making a long journey at more or less expense. B might accept S's invitation to luncheon but would not be warranted, even as a "brother practitioner," in living at S's house, for say, a week as a guest, unless they were intimate friends. True, many physicians do graciously extend the courtesy of their services to all members of the profession, even to the extent of sacrificing a day or more, including traveling expenses, but the recipient is always debtor to the physician who renders the service. When B asked what he "owed," he not only acknowledged that he was indebted to S in a manner that required a money return, but gave S the privilege of fixing the sum—in fact, made it necessary for S to do this or to forego any return either for expenses or for service performed. A better course for B to follow would have been, after heartily thanking S, to proffer an honorarium which B knew would reimburse S for the expenses of the trip and if B's finances permitted it, which would meet, in part at least, any loss that S might have suffered because of absence from his accustomed field of professional work.

On the other hand, when B did ask how much he "owed," S should have named the amount at once. While service to humanity is the prime duty of every physician, the business of the physician has a legitimate place. This should be conducted in a proper manner. Physicians too frequently answer a request even from a patient for a statement of indebtedness with "Do not bother about that now." Good business requires that a bill should be promptly rendered, especially when asked for.

Passing to B's action when S's statement was received, B should have paid the account. If B could not make the payment, he should have stated his financial condition and asked for terms of settlement. To discuss the "ethics" of an unpaid charge renders B liable to the suspicion of having been prompted by an unethical motive in opening the question.

"RHEUMATISM PHYLACOGEN"

To the Editor:—What do you know for or against Rheumatism Phylacogen, put up by Parke, Davis & Co.? Quite a number of my patients ask me about it, and I am unable to tell them anything, except that, as I know nothing of it, I will not use it.

J. FARRAGE, Deering, N. Dak.

ANSWER.—The resolution of our correspondent not to use this remedy, since he knows nothing of it except the information furnished by its promoters, is the proper one. Physicians have no moral right to employ remedies of whose nature they are ignorant, nor should they accept the statements of interested parties who fail to give them full scientific information. "Rheumatism Phylacogen" is one of a series of proprietaries now being put on the market, based on a theory of the originator that it is possible and necessary in every infection, not only to combat the action of the principal causative agent, but also to counteract the influence of other organisms, supposed to be always present, which produce a mixed infection. For meeting this supposed mixed infection, a mixture of the metabolic products of a large number of organisms is made the base of the remedy to be administered. For instance if the patient has pneumonia, the action of the pneumococcus may be aggravated by the streptococcus, and, therefore, a dose of streptococcus poison is added to the treatment. For fear the meningococcus may be overlooked, some of its metabolic products are added, and so forth. We have no definite information as to the particular organisms whose metabolic products enter into this "shotgun" base, so that the remedy is essentially a secret one. Moreover, as it is said to be produced by the action of pathogenic organisms, it must be of the nature of a toxin and presumably a dangerous one. In any event, until reliable, unbiased evidence as to its composition and action is available, it must be presumed that the injection of these toxins of unknown origin may have an injurious effect.

While it is recommended in the advertising circular to make an exact diagnosis, we do not understand that any provision is made for varying the constituents of the product to correspond with the diagnosis. On the principles of vaccine therapy, the rational treatment of a mixed infection, is, first of all, to determine what organisms produce the composite clinical picture, and then to prepare an autogenous vaccine to correspond to the organisms producing the disease, or to make an appropriate mixture of stock vaccines. Evidently Parke, Davis & Co. propose to save the doctor this trouble by making beforehand a mixture of all possible viruses, in the hope that some of them will hit the mark. The doctor must be painstaking in making his diagnosis; but after this is done he is invited to throw away his hard-earned knowledge and experiment with this "shotgun" nostrum—for it can be regarded as nothing else. The honest physician—one who is honest with himself and with his patients—will not lend himself to such experimentation. Let any one who undertakes the use of such a remedy remember that if bad results ensue, he, and not the manufacturer, will be held responsible.

PRESCRIPTION FOR PAIN

To the Editor:—Please criticize or approve the following:

Ferri pyrophos	gr.
Acetanilid	5i
Nucis vom. ext.	gr. ijss
Ac. arsen.	gr. ss
Caffein cit.	gr. vij.
Codeine	gr. ijss
Aspirin	5i
M. Pone in caps.	xij

Sig.: One every two hours for pain or until pain is relieved.

V. H. GWINN, M.D., Brooksville, Fla.

ANSWER.—It is not difficult to criticize this. A few itemized criticisms are:

1. The prescription is an example of unnecessary and objectionable polypharmacy—a typical "shotgun" mixture and a dangerous one at that.

2. We note that the quantity of the first ingredient is not given (probably an oversight in copying).

3. The dosage of acetanilid is 5 grains every two hours, without caution not to repeat it frequently. This is a dangerous dose.

4. The dose of extract of nux vomica is very near the full dose and should be repeated cautiously. Full doses of nux vomica should not be given so often as once in two hours, unless carefully watched.

5. The same applies, even with greater force, to the dose of arsenous acid. In this case the average dose is somewhat exceeded. It is well known that arsenic is not usually given so frequently as once in two hours. A half grain of arsenous acid might, according to this prescription, be taken in twenty-four hours, and such a dose might produce serious poisoning.

6. Considering the prescription from the standpoint of therapeutics, it is objectionable because there is no good reason for combining a compound of iron, a preparation of arsenic and one of nux vomica in a remedy intended to relieve pain. These medicines, if indicated, should be given in separate prescriptions.

7. There is no good reason for giving caffein citrate.

8. A minor criticism might be based on the style of the prescription. Some of the ingredients are named in Latin, others in English. This also may be due to oversight in copying.

DIAGNOSIS OF FACIAL CONGESTION

To the Editor:—Please give me diagnosis and treatment of the following case:

While in New York City three years ago, a woman, aged 35, well-nourished and in good health, was hit on the left side of the face by a tack. Three days later her face was swollen and the eyes were closed; inside of a week the patient had chills and fever, and there were redness and swelling over the entire body which lasted for about two or three weeks and subsided, except in the face, the muscles of which were hard and congested. There was no expression at all; the muscles of the eyes and mouth could be outlined but were hard and congested.

The patient was treated in New York for one year for erysipelas without result on the facial condition. Since that time every two or three weeks she has had chills and fever which last twenty-four hours or more. During the last month she has shown recurrent edema of the limbs lasting a few days; during this edema the congestion of the face is much less, but after the edema has disappeared on administration of cathartics and through increase in the urine, the congestion of the face becomes hard again. The urine shows albumin casts at times but not constantly. Blood examinations which have been made are normal at times and at others show a slight increase in red cells. The Wassermann reaction is negative. While the facial swelling is not so bad as it was six months ago, improvement is slow. During the last year the patient has been given mercury, iodids, electric treatments and almost everything that can be thought of, but with no marked results. I should like to know what causes the congestion of the muscles of the face and should like advice as to treatment.

B. C. S.

ANSWER.—The history of the face trouble suggests a recurrent erysipelas which has been followed by solid edema of the skin. These cases are uncommon but are recognized. The evanescent swelling over various parts of the body can suggest only an angioneurotic edema or the edema of nephritis—very probably the former. It is impossible to speak very definitely at this distance, but, assuming that the condition is angioneurotic edema it is doubtless a toxic process of some sort, either from some article of food or more probably from some intoxication having its origin in the intestinal tract. The treatment for this would be the treatment of intestinal disturbances. If the face trouble is a recurrent erysipelas it probably originates from a focus of infection in the nose which should be taken care of.

RUSSO REACTION

To the Editor:—Kindly give the method of Russo reaction in typhoid, time of appearance, relative value and the necessary reagents.

W. F. CURRAN, M.D., Waco, Tex.

ANSWER.—The method of Russo consists in mixing a solution of methylene-blue with the suspected urine. A green color is thereby produced in certain specimens of urine, more frequently in febrile affections, especially typhoid. It is said to appear early in the course of typhoid and the green color is observed to diminish or disappear at the beginning of convalescence.

The directions given for the performance of the test are as follows: To 4 or 5 c.c of the patient's urine add 4 drops of a 0.1 per cent. aqueous solution of methylene-blue; mix well and examine against the light; a mint or emerald-green coloration is positive, whereas any bluish tinge renders the test negative. Russo reported the reaction as being unaffected by boiling or by the ingestion of such drugs as calomel, quinin, salol or caffein, and also pointed out that the gradual resumption of the bluish tinge, as the patient advanced in the disease, was a valuable and favorable prognostic sign.

This method was criticized soon after its first appearance, on the ground that a similar green can be produced by a mixture of blue and yellow, and consequently is likely to be seen in any mixture of methylene-blue with the urine. Several observers, however, seem to be convinced that the green produced is due to some specific substance.

The value of the reaction is differently estimated by observers, but we believe that it cannot be taken as of great diagnostic value, because it occurs in a considerable number of normal cases. Thus Grover (Value of Russo's Typhoid Test, *Boston Med. and Surg. Jour.*, May 9, 1912; abstr. in THE JOURNAL, May 25, 1912, p. 1641), concludes: "Although the test may be demonstrated in the urine of a large proportion of the typhoid cases, yet it may be demonstrated in such a large proportion of the urines of normal individuals that it is not a test that has any specific meaning or value as to the presence or absence of typhoid. When compared with the reliability of a blood-culture it is worthless."

The following articles may be referred to:

Rolph, F. W., and Nelson, W. H.: Some Experiences with "Russo's Typhoid Test," *Med. Record*, Aug. 19, 1911.
Cousin, E., and Costa, S.: *Presse méd.*, March 14, 1906.
Gandy, C.: *Presse méd.*, March 21, 1906.

HORMONAL

To the Editor:—Please give me your opinion of Hormonal, especially as to dangerous symptoms following its administration, and its value in constipation.

M. A. NEWELL, Sheridan, Wyo.

ANSWER.—Hormonal was accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies, in view of the favorable reports concerning its action which have been made in the literature (see N. N. R. 1912, p. 118). Since its acceptance, a number of cases have been reported in which more or less alarming collapse has occurred during or immediately following its administration. An abstract of an important article dealing with the subject appeared in THE JOURNAL, July 20, p. 236. Notices of several cases in which collapse has occurred have been published in previous numbers of THE JOURNAL. It is too early to estimate correctly the value of this preparation, but it is evident that it should be used with caution. The following articles may be referred to:

Hormonal in Pulmonary Tuberculosis, Therapeutic Department of THE JOURNAL, this issue, page 447.
Kretschmer, J.: Collapse After Intravenous Injection of Hormonal, *München. med. Wchnschr.*, Feb. 27, 1912; abstr. in THE JOURNAL, April 6, 1912, p. 1048.
Zuelzer, G.: Collapse Under Hormonal, *Deutsch. med. Wchnschr.*, June 27, 1912, abstr. in THE JOURNAL, Aug. 3, 1912, p. 408.
Zuelzer, G.: Action of Hormonal, *München. med. Wchnschr.*, March 26, 1912.
Hesse, F. A.: By-Effects of Hormonal, *Deutsch. med. Wchnschr.*, April 4, 1912; abstr. in THE JOURNAL, May 18, 1912, p. 1549.
Rosenkranz, E.: By-Effects of Hormonal, *München. med. Wchnschr.*, April 23, 1912; abstr. in THE JOURNAL, June 8, 1912, p. 1824.
Frischberg, D.: By-Effects of Hormonal, *München. med. Wchnschr.*, April 30, 1912; abstr. in THE JOURNAL, June 8, 1912, p. 1825.
Mohr, R.; Blood-Pressure Reducing Action of Hormonal, *Wien. klin. Wchnschr.*, May 16, 1912; abstr. in THE JOURNAL, June 22, 1912, p. 2008.
Mohr, R., and Dittler: *Ztschr. f. klin. Med.*, 1912, lxxv. 275; abstr. in THE JOURNAL, July 20, 1912, p. 236.
Mohr, R.: *Berl. klin. Wchnschr.*, June 24, 1912.

OPHTHALMIC TYPHOID REACTION

To the Editor:—Please advise me where I may get the antigen for ophthalmic reaction, for practical bedside use in typhoid, as employed by Austrian. Are the stock typhoid vaccines suitable to use? If so, describe exact amount, dilution, etc.

LOUIS J. SMITH, M.D., Percy, Ill.

ANSWER.—The technic of the ophthalmic reaction in typhoid was described in THE JOURNAL, July 20, p. 213. So far as we know, stock typhoid vaccines are not used in this test. If reference is made to the description it will be seen that the toxin is precipitated from a solution by absolute alcohol. No doubt, some of the stock vaccines might be taken as the starting-point for the preparation of this toxin.

INFORMATION ABOUT LECITHIN PREPARATIONS

To the Editor:—Can you tell me where I may find something about reliable lecithin preparations?

A. B., Chicago.

ANSWER.—See New and Nonofficial Remedies, 1912, p. 130.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

PUBLIC HEALTH COMMENTS IN THE NEWSPAPERS

If the editorial comments in the newspapers are any indication of public sentiment, the people are overwhelmingly in favor of all measures which will improve the health of the country. All that is necessary in any case is to let the public understand that the plans proposed will improve the public health.

The New Haven (Conn.) *Register* says: "The *Register* would advise that all thoughtful persons who are interested in the public health of the nation read Prof. Irving Fisher's comprehensive presentation of the status of the movement for a national Department of Health . . . This department of public health is to be their (the people's) agency for their own protection, not for their domination by any interest . . . It should protect the public health welfare against the greed or ignorance of forces which operate against the public good . . . Long ago it was time to correlate these forces and make them fully effective. This is a part of the proposed work of the department. With both leading parties pledged to advance it, another administration should see it in working order to the large good of the nation."

The Erie (Pa.) *Herald*, under the title "Keep Track of Disease," refers to the tenth annual conference of state health officers with the Public Health and Marine-Hospital Service at Washington and the adoption by this body of a plan by which the state health authorities can keep informed of the prevalence and geographic distribution of communicable diseases throughout the country, and by which they can also be notified of epidemics in other states. The *Herald* says, "The effect will be that the health departments of the states will make the public health service bureau a clearing-house for current information of the prevalence of communicable diseases. The advantage of such a plan is apparent when it is considered that by far the larger part of public health work consists in the control of these diseases, and that the first essential for the control or prevention of any disease is a knowledge of where and how frequently it occurs."

The Grand Rapids (Mich.) *News* says, "It is becoming manifest that the real foes opposed to the passage of the Owen bill are the same foes that hindered Dr. Wiley in the prosecution of his plans for pure food and pure drugs. These are the food adulterators, the patent medicine manufacturers, and the numerous medical quacks and charlatans who had banded together to obstruct the passage of this bill in order that they might continue to make money at the expense of those who fall for their speciously worded advertisements."

The Louisville (Ky.) *Courier-Journal*, in a lengthy editorial on "The Filth of Civilization" quotes from the Mindanao *Herald* of Zamboanga, Philippine Islands, which says, "We have become a sewage-eating people. Rivers are polluted and we drink of them. Filth of various kinds is left where we pass it in walking about, and flies breeding in it carry it about on their feet and infect us. Germ-laden filth is conveyed to our food and to us with our food. The result is that persons who regard themselves as clean live in nearly continuous contact with filth, and disease is one of the results."

HIS DEATH OR YOURS!

Commenting on this "voice crying out in the wilderness" the *Courier-Journal* says that stream pollution is a growing national evil. "Americans shudder at stories of the Hindoos bathing in the polluted waters of the Ganges, but India has no river so filthy as the Ohio." The *Courier-Journal* concludes "Legislation, national and state, is needed to prohibit the pollution of streams, and education will be required to bring legislation. In the meantime, a few individuals will take such sanitary precautions in their homes as all sanitarians agree should be taken and for their pains will be regarded by many as cranks. The majority will continue to tub vigorously and will consider themselves clean, while paying little attention to the requirements of actual cleanliness that are far more important to health than a daily bath."

Commenting on a recent decision of the attorney-general of Kentucky that a school-house is not a publicly frequented place and therefore not affected by the recent passed law forbidding common drinking-cups, the Louisville *Herald* says, "If this be law then it is law without sense. If public schools are not publicly frequented places then what are they? And if there are any institutions in which the anti-public drinking-cup law ought to be enforced with greater vigor than in these, will somebody please name them? We refuse to believe that Attorney-General Garnett has given any such fool opinion as this. It reads to us as a silly season joke. And while we are expressing our amazement, skepticism and eagerness for further information, we would like to ask why any school board should seek to obtain immunity from a law so salutary. Eagerness to insure its enforcement should be the attitude of the authorities responsible for the health of the children." The Louisville *Courier-Journal*, commenting on the same point, says that the attorney-general's opinion is not one with which the average individual would agree. "Enforce-

ment of the drinking-cup law (in public schools) would call constant attention to the fact that a common drinking-cup may cause infection. The effect would be highly educative. School children would carry home the news—and in many homes it would be news—of the modern method of attempting to prevent many communicable diseases. They would begin life informed as to the importance of taking precautions to avoid contracting tuberculosis and other diseases. To forbid the use of public drinking-cups in railroad stations, hotels, boarding-houses, and to allow their use in public schools would be to neglect the health of school children and to overlook an opportunity to begin, where it should begin, education in the importance of sanitary precautions. Of course, the framers of the law did not contemplate anything so absurd. It does not seem at all probable that any court would take the fantastic view that a public school is not a publicly frequented place."

A new medical practice act, substituting a single board for the four examining boards now in existence in the state, has been introduced into the Georgia legislature. Regarding this bill, the Atlanta *Constitution* says, "The house and senate joint committee on hygiene and sanitation has very wisely decided unanimously on a favorable report on the bill of Senator Douglas which seeks to regulate, standardize and reform the practice of medicine and surgery in this state. It (the bill) would protect the public from illegal and unqualified practitioners of medicine and surgery. . . . Every well-equipped doctor is a missionary for modern sanitation and hygiene. Had regulations in this state been tightened years ago, our death-rate from typhoid, tuberculosis and other diseases would have been held down to a minimum."

The *Constitution* is supporting this bill on the only grounds on which restrictive legislation of any occupation or profession can be endorsed, viz., that it is for the public good. The Savannah *Press* also endorses the bill saying, "It is on the right line and moreover it is both refreshing and encouraging to see that, amid all the hysterical interest in legislating morals into the people, there is yet room for guarding and protecting the physical welfare of our people."

A bill providing for a state system of sanitation has also been introduced into the Georgia legislature, regarding which the Savannah *News* says, "The bill of Representative Ellis would be a blessing to the people. Sanitary regulations such as the bill provides are greatly needed in both the city and the rural districts. But it seems to us that it would take a long time to educate the public to a point where there would be sufficient public sentiment." The *News* expresses the hope that if all the sanitary reforms provided for in this bill cannot be secured, at least provision will be made for systematic examination of school children.

The Macon *Telegram* summarizes the ten sections of the bill and shows that its enactment and enforcement would prove of great benefit to the people of the state. The *Telegram* says, "The bill may not receive the necessary approval of the legislators or the people, but it is a step in the right direction and should receive at least a careful consideration. It varies little from similar bills which have been passed by the legislators in other states and which in time will become imperative in Georgia."

Careful inspection of editorials clipped from newspapers in all parts of the country during the last three years leads one unavoidably to the conclusion that the press and the public are more interested, more enlightened and less prejudiced to-day on public health questions than ever before. The growing sentiment in favor of proper regulation of all matters affecting the health of the people is one of the most encouraging signs of the time.

Britain May Subsidize Motor Cars.—The British War Office is considering the subsidizing of heavy gasoline trucks owned by civilians. An owner would receive an initial subsidy of from $39 to $58, and an annual subsidy of $73, in return for which he would agree to turn over his wagon to the government, in case of war, at a fixed price.

Medical Education and State Boards of Registration

COMING EXAMINATION

NEBRASKA: Capitol, Lincoln, August 14-15. Sec., Dr. C. P. Fall, Beatrice.

Oklahoma April Report

Dr. John W. Duke, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Oklahoma City, April 9-11, 1912. The number of subjects examined in was 15; total number of questions asked, 100; percentage required to pass, 70. The total number of candidates examined was 15, of whom 10 passed and 5 failed. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
Illinois Medical College	(1910)	74.4
Louisville Medical College	(1886)	73.6
University Medical College, Kansas City	(1911)	78.4
Starling Medical College, Columbus	(1897)	78.6
Jefferson Medical College	(1906)	90.3
Meharry Med. College . . . (1898) 70.8; (1910) 78.5;	(1911)	72.9
Memphis Hospital Medical College	(1909)	74.7
University of West Tennessee	(1911)	73.9
FAILED		
College of Physicians and Surgeons, Little Rock	(1911)	68.3
Howard University, Washington, D. C.	(1891)	68.3
Flint Medical College	(1907)	68.3
Kansas City Hahnemann Medical College	(1910)	64.7
University of West Tennessee	(1907)	67.8

The following questions were asked:

BACTERIOLOGY AND PATHOLOGY

1. What are leukocytes and how classified? 2. What are bacteria? Name four bacteria cultures. 3. Give process of staining and mounting tuberculous bacilli. Name the pathogenic cocci that produce yellow pus, white pus, lemon-colored pus. 5. Name three kinds of parasitic fungi. 6. Give the pathologic changes that take place in pericarditis. 7. Name and describe two forms of arteriosclerosis. 8. What is suppurative nephritis, and what part of the kidney is affected? 9. What is endarteritis obliterans and what part of the vessel is affected? 10. Give the pathology of perinephritis.

SURGERY

1. Give the etiology of inflammation. 2. Define acute and chronic abscess. 3. What are the most approved operative procedures in the treatment of varicose veins of the lower extremity? 4. What is shock, and how should it be treated? 5. What are methods of controlling hemorrhage? 6. What are the indications for trephining in fractures of the skull? 7. Define amputation in the continuity and amputation in the contiguity of a limb. 8. Describe the aseptic and the antiseptic methods of treatment of wounds. 9. Describe the operation of cholecystomy. 10. Mention the symptoms and signs of acute appendicitis.

OBSTETRICS AND HYGIENE

1. What do you understand by obstetrics, occiput, sinciput, vertex, bregma and presentation? 2. (a) What is accidental hemorrhage? (b) What are the causes and treatment? 3. (a) Name the bones of the pelvis. (b) How do those of the male differ from those of the female? 4. State the average size and weight of the multiparous uterus. (b) Name the ligaments that support the uterus. 5. What are the planes and axes of the pelvis? 6. What are the movements undergone by the fetal head during normal labor? 7. Describe the fetal circulation. 8. Define normal labor; cephalic, pelvic and podalic version. 9. Give instructions for ventilation of a three-story school building. 10. How would you control an epidemic of small-pox?

PHYSICAL DIAGNOSIS

1. Are the movements of the heart visible in insufficiency of the aortic valves? 2. Is there a precordial bulging in insufficiency of the aortic valves? 3. In what intercostal space can the heart-beat be located if heart's action is far out in above disease? 4. Describe the apex-beat and how to determine its location in above disease. 5. Where is a systolic thrill felt in above disease? 6. What characteristic sign do we find on auscultation in above disease? 7 What is discovered by percussion in above disease? 8. What rale is always present in second and third stages of pulmonary tuberculosis? 9. Give physical signs of cavity in third stage of pulmonary tuberculosis. 10. Give physical signs of chronic pleuritis.

CHEMISTRY

1. What chemical changes take place after death? 2. What is the chemical antidote for poisoning from lead acetate? Explain the action of the antidote. 3. State the properties of nitric acid and what is the antidote for nitric acid poisoning? 4. Define element, atom, molecule. 5. What is a hydrocarbon? 6. What essential element is necessary in all acids? 7. What are aldehyds? 8. How does potassium permanganate act as a disinfectant? 9. Mention the important physical, physiologic and chemical properties of ptomains. 10. State your procedure of examination of a specimen of urine of an applicant for life-insurance.

GYNECOLOGY

1. Give indications for curettage. 2. Describe the above operation in detail. 3. Treat a case of chronic retroversion of the uterus. 4. Describe the changes taking place in the uterine mucosa during menstruation. 5. What holds the uterus in its normal position?

6. Name the common causes of sterility. 7. Give etiology and treatment of pelvic abscess. 8. Describe technic of operation for cervical repair. 9. Give etiology and treatment of ulcer of cervix. 10. Give etiology and treatment of acute vaginitis.

TOXICOLOGY AND MEDICAL JURISPRUDENCE

1. What is toxicology? 2. What are the requirements and how would you qualify yourself to have a legal right to practice medicine in this state? 3. Give a medicolegal definition of insanity. 4. What is a delusion, a hallucination, an illusion? 5. Give a test for phosphorus when mixed with stomach contents. 6. Being called on in court to testify as to whether an adult person found dead in a pond or river came to his death or not before being placed in the water, what would be your mode of procedure? 7. What are the symptoms of poisoning by potassium iodid? 8. What are the postmortem appearances of poisoning by mercury bichlorid? 9. How would you treat poisoning by potassium iodid? 10. Give the treatment of poisoning by aconite.

MATERIA MEDICA AND THERAPEUTICS

1. Name the preparations and doses of belladonna. 2. What is salol and what are its physiologic uses? 3. Name five alteratives and give their therapeutic properties. 4. Name two diuretics, two antipyretics and two cathartics, and give dose of each. 5. Name the drugs compatible with silver. Treat the following diseases, giving doses of drugs used and their therapeutic effect; also diet and prognosis: 6. Pneumonia. 7. Whooping-cough. 8. Typhoid fever. 9. Diabetes mellitus. 10. Tuberculosis.

ANATOMY AND HISTOLOGY

1. Origin and termination of the internal jugular vein. 2. Briefly describe the spinal cord, giving point of termination. 3. Describe the frontal sinus. 4. Give lateral boundaries of Scarpa's triangle. 5. Origin, point of termination and branches of the abdominal aorta. 6. Name the vessels forming the circle of Willis. 7. Briefly describe the fascia lata. 8. Name the ventricles of the brain. 9. Histologic structure of the mucous membrane of the stomach. 10. Histologic structure of the pancreas.

PHYSIOLOGY

1. Name the cranial nerves and give the function of two of them. 2. Give specific gravity and chemical reaction of urine and state normal amount voided in twenty-four hours. 3. What is the function of the ovum? 4. Name the chambers of the heart in their order as the blood passes from the venæ cavæ to the aorta and tell what causes the second sound of the heart. 5. Name the organs of digestion and tell what agent acts on starches. 6. What is osmosis? 7. Describe reflex action. 8. In what portion of the brain are most of the motor areas located? 9. Where does the secretion from the liver enter the alimentary tract? 10. What is the function of the pancreas?

Rhode Island May Report

Dr. Gardner T. Swarts, Secretary of the Rhode Island State Board of Health, reports the oral examination held at Providence, May 16, 1912. The percentage required to pass was 80. The total number of candidates examined was 2, both of whom passed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Harvard Medical School	(1908)	80.
McGill University, Quebec	(1873)	80.

Mississippi June Report

Dr. W. W. Smithson, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, June 4-5, 1912. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 87 of whom 43 passed and 44 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
University of Alabama	(1912)	3
Atlanta School of Medicine	(1912)	2
College of Physicians and Surgeons, Chicago	(1883)	1
Chicago College of Medicine and Surgery	(1912)	1
University of Louisville	(1911, 2) (1912, 1)	3
Kentucky School of Medicine	(1890)	1
Tulane University of Louisiana	(1912)	5
Mississippi Medical College	(1912)	7
Memphis Hospital Medical College	(1911, 3) (1912, 11)	14
College of Physicians and Surgeons, Memphis	(1911)	1
Vanderbilt University	(1912)	1
University of Tennessee	(1910)	1
University of Nashville	(1911)	1
University of Virginia	(1910)	2
FAILED		
Atlanta School of Medicine	(1912)	1
Louisville National Medical College	(1910)	1
Tulane University of Louisiana	(1911)	1
Mississippi Medical College (1907) (1909, 2) (1910, 3) (1911, 4)	(1912, 6)	16
Barnes Medical College	(1901)	1
Leonard Medical School	(1909)	1
Meharry Medical College	(1907, 2) (1911, 1)	3
Memphis Hospital Medical College (1909, 2) (1911, 4)	(1912, 10)	16
University of Tennessee	(1912)	2
Gate City Medical College	(1906)	1
Selma University *	(1906)	1

* There is no record of a medical college by this name.

Book Notices

THE PHYSIOLOGY OF FAITH AND FEAR, OR THE MIND IN HEALTH AND DISEASE. By William S. Sadler, M.D., Professor of Physiologic Therapeutics, the Post-Graduate Medical School of Chicago. Cloth. Price, $1.50 net. Pp. 580, with illustrations. Chicago: A. C. McClurg & Co., 1912.

Among the writers of medical books are (1) the original worker and (2) the text-book writer. The research worker, while constantly toiling in his laboratory, occasionally writes in order to apprise the medical profession of the results of his labors. He is often a poor stylist and not easily understood by his own colleagues, unless the latter because of their interest in the subject make especial efforts to get at the author's meaning. To the second type belongs the clinician and teacher who appropriates the choicest thoughts of the most advanced thinkers and then renders an account of his newly acquired knowledge in either text-book or medical journal articles. It thus happens that the research worker is often unable to tell all he knows, while the lucid teacher and writer occasionally tells more than he knows. Even of the last group there are but few who can popularize a medical subject so as to give the layman an intelligent idea of it. One reason for this deficiency may be found in the lack of practice in this line of endeavor, for the medical profession has until quite recently regarded with disfavor any attempt to teach the public medicine. The arguments advanced for this view were two; first, that a little knowledge is dangerous; second, that the teaching of popular medicine is usually done for the purpose of advertising the teacher, the public often taking the promulgator for the originator. And because of the inherent difficulties of translating into plain English abstruse technical matter, few medical men have become adepts in this kind of writing. In recent years the public has become insistent on knowing certain facts in medicine and the medical profession has slowly yielded to the public's demand, with the result that medical societies have inaugurated popular courses of lectures on hygiene and preventive medicine. The view now prevails that the public should know the truth about certain medical topics, so as to enable it to discriminate between truth and falsehood and to examine the claims of the numerous fads and cults of healing which have recently sprung up mushroom-like on our own soil. These growths are possible only because of the colossal ignorance prevailing among the people with reference to their minds and bodies. The book before us was written for the general reading public in simple, terse phraseology and with a thoroughness seldom surpassed or equaled even in strictly technical writing. The subject of "nerves" is treated in a sane and rational manner. In the 580 pages of this book there is not a paragraph to which serious objection is possible from the strictly medical point of view. The lengthy discussion of each subtopic is followed by a brief summary at the end of each chapter, a commendable feature in a popular work, written for people not accustomed to read many pages without forgetting the main issues involved. No hesitation need be felt in placing this volume in the hands of a patient, as reading it must make one a more intelligent, consequently a more appreciative, patient. We hope that this book which, being sold at novel price, will probably be widely read by the general public, will thus help to mold saner views with reference to so-called "mental healing."

DIE ARZNEIMITTEL-SYNTHESE AUF GRUNDLAGE DER BEZIEHUNGEN ZWISCHEN CHEMISCHEN AUFBAU UND WIRKUNG. Für Aerzte, Chemiker und Pharmazeuten. Von Dr. Sigmund Frankel, a. o. Professor für medizinische Chemie an der Wiener Universität. Third Edition. Paper. Price, 24 marks. Pp. 823. Berlin: Julius Springer, 1912.

The third edition of this valuable book appears in an enlarged form. It discusses systematically the relation between the physiologic and therapeutic effects of substances and their chemical composition, on which, of course, are based the entire subjects of synthetic pharmaceutical chemistry and chemotherapy. An exhaustive review of the literature and an extensive bibliography, which naturally includes particularly the records of the German patent office, make this a reference

work indispensable to those whose interests are along these lines, especially pharmacologists and pharmaceutic chemists. Most physicians, also, would be much enlightened by a study of the introductory chapters on the theory of the action of inorganic and organic substances, and the relation between chemical composition and physiologic effect. The author's ideas on this point may be quoted with emphatic approval: "The flood of new substances, which inventors and manufacturers wish to have investigated, must cause the question to arise as to how we are to prevent the entrance of these new agents into therapeutics without thorough testing. It has been frequently proposed that there should be government institutions with the function of testing and establishing the value of new therapeutic agents before they can be used in therapy. Although such testing would be very valuable, and might prevent the use of actually harmful substances by the practitioner, there is the difficulty that such an institution must recognize as new and active substances the enormous number of possible variations of well-known and proved substances. It is just such variations that constitute the great number of new drugs, while the discovery of new classes of active substances, or new fundamental substances, is much more rare. We must rest our hopes that a check will be placed on the production by the chemists of unnecessary variations of substances of known activity and value, through the increase in physician's knowledge of pharmacology, and it is to be hoped that physicians may learn how to distinguish between the production of new active fundamental substances and the innumerable variations of old and new active agents. At present, unfortunately, the only protection against the overwhelming of therapeutics by superfluous new substances lies in the resistance and conservatism of the medical profession, a conservatism which, however, opposes equally the new and good and the new but superfluous." To enlighten both the physician and the chemist as to what is old or new, desirable or superfluous, promising or hopeless, this book is well devised and well adapted.

THE PHYSIOLOGY OF THE SEMICIRCULAR CANALS AND THEIR RELATION TO SEASICKNESS. By Joseph Byrne, A.M., M.D., LL.B. Cloth. Price, $3. Pp. 569. New York: J. T. Dougherty, 1912.

The first 336 pages of this interesting book are devoted to a discussion of the anatomy and physiology of the labyrinth with its incoming and outgoing tracts, inclusive of the sympathetic or autonomic nervous system. In the remainder of the volume the author explains in detail the mechanism and the rationale of the new tests of rotation, caloric and galvanic stimulation of the labyrinthine structures, all of which he utilized in order to produce experimentally a series of symptoms akin to seasickness. In addition he studied the effects of seasickness itself on circulation, respiration and digestion during several transatlantic voyages, of which he made careful daily records. Correlating his own experimental findings with the actual symptoms of seasickness as observed by himself and others, he concludes that their cause is to be found in the labyrinthine structures. He believes that seasickness in ordinary conditions of health is primarily the response of the organism to repeated and irregular forms of labyrinthine stimulation. Predisposition to seasickness, therefore, merely implies ready, alert reflex mechanisms, and is in no way directly related to the health or strength of the individual in so far as its primary causation is concerned. In fact, so common is seasickness among normal individuals that the burden of proof rests with those who are immune to prove that they are free from abnormality. The author is opposed to advising a sea-voyage to suffering individuals regardless of conditions of circulation and digestion. He further denounces the indiscriminate advice to travel, which is so often given to patients with symptoms of mental depression. Rightly does he refer to the many cases of suicide occurring at sea as a result merely of the psychic depression incidental to seasickness itself. It is manifest, says he, that a serious responsibility rests with the physician who recommends sea-voyages in conditions in which the "reserve-margin" of any of the organs is encroached on by disease or faulty habits of living. The number of suicides committed at sea, and the carelessness with which unfortunates suffering from seasickness are treated, is a disgrace. The lonely individual suffering inner torments, as the result of repeated labyrinthine irritation, wanders about in a state of mental agony, not knowing what is the matter with him, nor how to orient himself properly in the whirl of his disordered imaginings. Instead of receiving proper medical treatment which would include close supervision, and a goodly amount of reassurance, such an individual is left severely alone, with the result that relief from mental distress of purely artificial origin is sought in self-destruction.

In the concluding chapter of the book the author recommends certain improvements in the hospital facilities of ships, better hygienic conditions generally and, last but not least, the employment of physicians scientifically trained to care for the health of passengers from every point of view.

This book is a veritable mine of information on its particular theme and those contemplating ocean-travel for themselves or their patients will find therein numerous valuable suggestions. Otologists and neurologists will appreciate the complete summary of the anatomy and physiology of the vestibular structures, as well as the fine summary of the new aural tests and the adequate bibliography at the end of the book.

BRONCHIAL ASTHMA. Its Pathology and Treatment. By J. B. Berkart, M.D. Third Edition. Cloth. Price, 5 shillings. Pp. 150. New York: Oxford University Press, 1911.

The object of this monograph, which in its third edition is an abridgment, is to maintain the theory of the origin of asthma in an inflammation of the bronchioles and an endogenous obstruction of the larger bronchi. Asthma is a symptom of a fibrinous bronchitis of which latter a microorganism is the cause (p. 80). The organism is, Berkart believes, the streptococcus. Rickets is the basis for the development of the asthmatic paroxysm, and rickets he regards as very often inherited. This, in brief, is Berkart's theory as to asthma. His book has much of value as regards symptoms and the findings in the sputum, and some of his theoretical considerations are suggestive. The chapter on the diagnosis, though short, has many good points that help in differentiating the dyspnea of asthma from that of other obstructive lesions of the respiratory tract. Berkart's advice as to treatment is in general to be commended. The book as a whole, however, is not satisfactory. Conclusions are drawn that seem unwarranted by facts; vague statements are too numerous, and the author has a convenient way of getting rid of an opposing argument by declaring it evidently untenable. For instance, all reports of cases in which patients have been better in the city and worse in the country, he declares, are evidently incorrectly observed; such are but instances of hollow theory. The bronchial spasm origin of asthma is inveighed against rather than disproved. His chapter on treatment is too much taken up with telling of the futility of what other practitioners have done. His own directions are rather indefinite except as regards his advocacy of antitoxin, which is not convincing.

PHARMACEUTICAL BACTERIOLOGY. With Special Reference to Disinfection and Sterilization. By Albert Schneider, M.D., Ph.D., Professor of Pharmacognosy, Histology and Bacteriology, California College of Pharmacy. Cloth. Price, $2 net. Pp. 238, with 86 illustrations. Philadelphia: P. Blakiston's Son & Co., 1912.

The publication of Dr. Schneider's book is one of the evidences of the high degree of excellence to which the profession of pharmacy is advancing. Pharmacy as a practical art may be thought to have little to do with bacteriology but, in fact, since the task of the pharmacist is the preparing of medicines his field can no more be limited to drugs and chemicals than that of the physician can be confined to the vegetable and mineral materia medica. The advance of science has introduced the vaccines into extensive use and it becomes the duty of the pharmacist to keep pace with the growth of medicine. Hence courses in bacteriology will become a necessity in colleges of pharmacy. Indeed, they have already been introduced into some schools. The bacteriologic course creates a demand for a text-book which shall deal particularly with the phases of the subject of special interest to the pharmacist. Professor Schneider's work is designed to answer this demand. He has given clearly the

elements of the science and has illustrated them by facts drawn from general science and industry as well as from medicine. The technic described is accurate and sufficient. The detailed knowledge of immunity, still a *terra incognita* to some physicians, may seem unnecessary and capable of little application in a drug-store. But the rôle of the pharmacist as an educator in sanitary matters may be indefinitely extended, since his opportunities for influencing public opinion certainly are not far behind those of the physician. In the practical application of bacteriology to disinfection, the author has recognized a legitimate field for the professional skill of the pharmacist. He must sell and sometimes prepare disinfectants. He ought to know and on occasion be able to apply the methods of estimating the strength of these agents. The sterilization of medicines is thoroughly dealt with. A chapter is devoted to a brief account of the various communicable diseases and a final chapter gives a brief description of the equipment of a microscopic and bacteriologic laboratory.

If pharmacy is to maintain its position as a sister profession to medicine, there need be no dispute regarding the propriety of the addition of bacteriology to pharmaceutic courses. If any one thinks otherwise we commend to him a perusal of Professor Schneider's book. The curriculums of the average pharmaceutic schools, however, are now constituted in such a way that there is no room for practical courses in bacteriology. The introduction of such courses will necessitate marked changes in the college programs and the emphasis placed on different phases of the instruction. But between a knowledge of the pharmacognosy of Cinchona bark and a knowledge of the bacteriology of diphtheria, the preference might well be given to the latter.

It is to be hoped that the changing conditions in the profession of pharmacy may make the pharmacist more competent to help physicians in making bacteriologic and other tests. If the book awakens the pharmacists of the country to a realization of their opportunities, it will have served a useful purpose.

OUTLINES OF APPLIED OPTICS. By P. G. Nutting, Associate Physicist Bureau of Standards, Washington, D. C. Cloth. Price, $2 net. Pp. 234, with 73 Illustrations. Philadelphia: P. Blakiston's Son & Company, 1912.

This book has been written for the practical worker in optics rather than for the student or general reader. It deals with optical instruments and optical measurements and "is intended for the man in the field designing instruments, measuring color, examining eyes, identifying illuminants, etc." It is essentially a manual of mathematical formulas for working out the problems indicated in the above quotation. Unfortunately, we are unable to criticize all portions of the work with equal assurance but would call attention to the following on page 115.

"The limits of accommodation are by no means the 25 cm. to infinity ordinarily taken as the limits of the normal visual distance. The normal eye, even at middle age, can easily accommodate itself to an object beyond infinity, i. e., a meter behind the eye, or as near as 10 cm. in front of the eye. The power of accommodation decreases considerably, in practically all cases, from childhood to old age."

The normal emmetropic eye cannot at any age accommodate itself to any point beyond infinity, and at middle life can not be accommodated to a point as near as 10 cm. in front of the eye. The last sentence quoted is quite true if the word "practically" be omitted.

FOOD FOR THE INVALID AND THE CONVALESCENT. By Winifred Stuart Gibbs, Dietitian for the New York Association for Improving the Condition of the Poor. Cloth. Price, $0.75. New York: Macmillan Company, 1912.

The title of this book does not do justice to the text. Instead of being merely another of the many books on sick-room dietetics, it is also an excellent manual of domestic economy. There are directions for buying all kinds of food-supplies and for keeping them after they are purchased. A warning is issued against dirty stores. The necessity for good cooking is explained and the results of bad cooking are enumerated. The various terms used in cooking—boiling, stewing, etc.—are defined. The recipes are all good and practical. Under the title "Feeding the Healthy," bills of fare are given showing how to plan meals for families of different size at low cost, and at the same time to have variety and proper proportions of foodstuffs. The cost of each item is given, the prices being those charged in New York. The book should be of great value not only to visiting nurses, sociologic workers and physicians in dispensary practice, but also to housekeepers.

LE LIQUIDE CÉPHALO-RACHIDIEN NORMAL ET PATHOLOGIQUE. Valeur Clinique de l'Examen Chimique. Syndromes Humoraux dans les Diverses Affections. Par W. Mestrezat, Docteur en Médecine, Licencié ès Sciences, Chef des Travaux de Chimie à la Faculté de Médecine de Montpellier. Paper. Price, 12 francs. Pp. 681. Paris: A. Maloine, 1912.

This extensive monograph on the cerebrospinal fluid is one of the most thorough and complete works on the subject. An enormous mass of detail, concerning the normal values for the chemical and physical properties of this fluid, has been arranged in a most serviceable and interesting manner. In the second portion of the work, the pathologic variations in these properties are so fully discussed that little is left to be desired.

The style of the book is clear and concise. The arrangement of the subject-matter is excellent. This book is one which should be in the library of every laboratory worker and should prove of great interest and value to the clinician.

ESSENTIALS OF SURFACE ANATOMY. By Charles R. Whittaker, F.R.C.S. (Ed.), F.R.S.E., Senior Demonstrator of Anatomy, Surgeons' Hall, Edinburgh. Second Edition. Cloth. Price, $1.40. Pp. 59, with illustrations. Philadelphia: P. Blakiston's Son & Co., 1912.

This little manual, now appearing in its second edition, has the distinguishing merit of concise and accurate description. The illustrations are well executed and calculated to be useful by not attempting to show too much. In this edition several extra markings have been inserted and a few outline illustrations provided.

Medicolegal

Malpractice Suit Based on Failure of Operation for Tic Douloureux—Operating Without Consent or on Consent for Different Operation—Having Hospital and Another Surgeon Operate—Expert Testimony

(Robinson vs. Crotwell (Ala.), 57 So. R. 23)

The Supreme Court of Alabama reverses a judgment rendered against the defendant for malpractice, remanding the case for a new trial, because it concludes that the jury was more moved by sympathy for plaintiff, who had undergone an unsuccessful operation, than by consideration of the law and the facts. There is no rule of responsibility which requires of the physician or surgeon infallibility in the diagnosis or treatment of diseases.

For some years the plaintiff, the court says, had been treated by the defendant and other medical men for tic douloureux, an exceedingly painful disease of the nerve which supplies the face with sensation. In keeping with the general, if not universal experience, medicaments had been of no avail. The defendant, who kept a hospital, advised an operation, and, after consulting with the plaintiff, procured his (defendant's) brother, who made a specialty of surgical cases, to perform the operation for a compensation agreed on, and to be paid by the plaintiff. The defendant's brother was not interested in the hospital and had no business connection with the defendant. The operation was not successful in relieving the suffering caused by the plaintiff's specific disease, and, besides, left him with some disfigurement, and without the protection afforded the brain by the hard plate of his skull over an area of 2½ by 1½ inches. Afterward this action for malpractice was brought.

In one aspect of his case, the plaintiff contended that the defendant caused a dangerous operation to be performed on him, after assuring him that the operation to be performed would be a mere trifle, as operations go, and would involve no serious consequences. If the plaintiff's contention in this regard was true, the defendant's conduct would seem to be indefensible. But the verdict, if rendered on this aspect of the case, ought

not to be permitted to stand. The defendant was a reputable physician. He had attended the plaintiff at intervals since the latter's childhood, and through many months he had treated him for the specific disease of which it was proposed to relieve him by the operation in question. The operation was performed in the presence of three other physicians, nurses, and three brothers of the plaintiff. The defendant and two of the other physicians swore that the plaintiff was specifically informed of the nature of the operation which it was proposed to perform. It was also an undisputed circumstance of great and peculiar weight in this case that nearly a year elapsed after the operation before the plaintiff, or any one for him, intimated that he had a grievance by bringing this suit or otherwise, and that in the meantime the plaintiff, without a word of complaint or reproach, returned to the defendant for treatment, and consulted with him about having the operation repeated. The wrong attributed to the defendant was so utterly without motive, so wide a departure from the principles and practices of an honorable profession, the complaint so long delayed, and the lack of general verisimilitude so great, that if the verdict in this case was to be referred to that theory of the plaintiff's case now under consideration, it ought to have been set aside on the defendant's motion. The plaintiff testified, as an alternative, that if he was informed of the character of the operation he was so informed after his faculties had been so benumbed by an opiate, administered by the defendant, that he could not and did not understand or consent. But on this point the evidence was equally clear, and the consideration referred to made this alternative as unworthy of belief, as the other.

But the plaintiff also complained that the defendant had unskilfully or negligently diagnosed or treated his case. But of error in diagnosis there was not a particle of evidence. As for any unskilfulness or negligence which may have characterized the operation and affected its results, assuming that the jury was authorized to find there was such, that operation was not performed by the defendant, but by another surgeon, who proceeded on his own judgment as to what ought to be done and how. The defendant took part to the extent only of administering the anesthetic, and advising that the effort to complete the operation be abandoned on account of the patient's ebbing vitality. There was no suggestion that in these things he showed any lack of skill or committed any error. Nor was there any suggestion that he negligently advised the employment of an unskilful or incompetent surgeon to perform the operation. Under such circumstances, the defendant was not responsible for any default on the part of the operating surgeon, who was practicing his profession as an independent agent. And the argument that the defendant contributed to the result of the operating surgeon's alleged negligence by furnishing an inadequately equipped place in which to perform the operation left the question at issue to depend on the defendant's responsibility for the operating surgeon; for, if the condition of the hospital and its equipment was such as, in itself, to import an element of negligence or unskilfulness into an operation performed there, the responsibility for that element of the operation rested on the surgeon whose judgment determined on and directed the operation.

With reference to the instruction of the jury, these charges given at the instance of the plaintiff assert principles of law which seem entirely plain: If a physician or surgeon has taken charge of a patient, and undertaken for reward to furnish hospital and apparatus for the operation, it is his duty to exercise proper care and diligence to furnish reasonably prudent and proper facilities, and he may be liable for any failure so to do, even though he is otherwise careful and competent. No matter how skilful or careful a physician or surgeon may be, he has no right to perform a dangerous operation on an adult person of sound mind without his consent, even if the patient has consented to another and different operation. Consent to the performance of one kind of operation would not be consent to the performance of another and different operation. The court does not, of course, intend to say that there may not arise grave emergencies in which a surgeon may operate on his patient without his knowledge and consent. This was clearly not a case of that character. No matter how skilful a physician or surgeon may be, he is responsible for his negligence, if any.

But charges asked by the defendant were properly refused which maintained the proposition that a physician and surgeon is responsible civilly for gross negligence only. Such is the measure of his responsibility in criminal prosecutions, but a civil action may be sustained on proof of a failure to exercise such reasonable care and skill in respect to the duty assumed as physicians and surgeons in the same general neighborhood, in the same general line of practice, ordinarily have and exercise in like cases. And a requested charge that a physician or surgeon is bound to give his patient the benefit of his best judgment, but is not liable for a mere error of judgment, was defective in that it required of medical men no skill whatever, there being in it no requirement that the judgment brought by the professional man to the discharge of his duties should be informed and educated according to the standard of the time and general locality, as the law requires.

When There is Failure to Elect Superintendent of Health the Secretary of State Board May Appoint One—Constitutionality of Law

(McCullers vs. Board of Commissioners of Wake County (N. C.), 73 S. E. R. 816)

The Supreme Court of North Carolina reverses a judgment rendered against the plaintiff, who was appointed county superintendent of health by the secretary of the State Board of Health, under Section 9 of Chapter 62 of the Public Laws of North Carolina of 1911, which provides that, if the county board of health of any county shall fail to elect a county superintendent of health within two calendar months of the time fixed by the statute when such election shall take place, the secretary of the state board shall appoint one. The court says that the defendant board of commissioners passed a resolution undertaking to appoint a superintendent of health, and to fix his salary. In consequence of such conflict between the two boards and the failure to fix his compensation, the plaintiff appeared before the board of health at its next meeting, and declined to qualify as superintendent of health for Wake county. Then, the board of health having failed to elect a superintendent for more than two calendar months, the secretary of the state board appointed the plaintiff, fixing his fees and compensation, after which he qualified. The court holds that this gave the plaintiff the title to the office.

It was contended that the contingency had not arisen when the secretary could lawfully appoint a superintendent of health. But when a majority of the board of health voted for the plaintiff, and he refused to qualify, it was the duty of the board at once to elect another person. This it failed to do, so that the office remained vacant for more than two months up to the time the state secretary made the appointment. The court thinks the true intent and meaning of the statute is to give such appointment to the state secretary when the board of health for any reason permits the office to remain vacant for two calendar months from the date fixed by statute. The public interest requires that this particular office shall have an incumbent to discharge its duties. By the words "shall fail to elect," the general assembly meant the choosing and induction into office of a superintendent of health within two calendar months, otherwise a hostile board of health could keep the office vacant by electing a person who would not qualify.

Nor does the court consider that said Section 9 violates the provision of the state constitution forbidding the holding of two offices by one man at the same time in that it constitutes the county board of health of the chairman of the board of commissioners, the mayor of the county town, and the county superintendent of schools, together with two physicians to be elected by those three public officials. It is not a case in which one person holds two offices at the same time, but rather one in which the duties of a member of the county board of health are to be performed *ex officio* by the chairman of the board of commissioners, the mayor, and the superintendent of schools. These duties cannot be discharged by them any longer than they hold the offices mentioned.

Society Proceedings

COMING MEETINGS

Am. Acad. of Ophthal. and Oto-Laryngol., Niagara Falls, Aug. 20-22.
Amer. Assn. of Obstetricians and Gynecologists, Toledo, Sept. 17-19.
American Electro-Therapeutic Association, Richmond, Va., Sept. 3-5.
American Public Health Association, Washington, D. C., Sept. 18-20.
American Roentgen Ray Society, Niagara Falls, Sept. 11-14.
Colorado State Medical Society, Pueblo, Sept. 24-26.
Conf. State Bds. of Health of N. Am., Washington, D. C., Sept. 20-21.
Indiana State Medical Association, Indianapolis, Sept. 26-27.
Medical Society of the Missouri Valley, Council Bluffs, Ia., Sept. 5-6.
Minnesota State Medical Association, Duluth, Aug. 14-15.
Nevada State Medical Association, Reno, Sept. 10-12.
New Mexico Medical Society, Roswell, Sept. 12-14.
Pennsylvania State Medical Society, Scranton, Sept. 23-26.
Wyoming State Medical Society, Sheridan, Sept. 17.

AMERICAN CLIMATOLOGICAL ASSOCIATION

Twenty-Ninth Annual Meeting held at Hartford, Conn., June 10-13, 1912

The President, DR. A. D. BLACKADDER, Montreal, Canada, in the Chair

Officers Elected

A list of the officers for the coming year was published in THE JOURNAL, June 29, p. 2039.

Cold-Therapy

DR. A. D. BLACKADDER, Montreal, Canada: The effect of cold air on the body is twofold. First, there is an actual extraction of heat which is rarely desirable, and as far as possible should be prevented. The body loses the largest amount of heat through conduction and this should be prevented by proper clothing. Much more important than the abstraction of heat from the body is the stimulating action of the cold on the delicate sentient nerves of the periphery. Both respiration and circulation are strengthened, oxidation is increased, and nutrition becomes more active. There is also a powerful stimulation conveyed to the medullary centers by the effect of cold air on the nasal mucous membrane. Cold, provided it be not excessive, has a markedly stimulating action on the digestive system. Cold also seems to stimulate the blood-forming organs. As a result of these factors, the resisting powers of the body against toxins and its ability to respond protectively to the assault of infection is greatly increased. These benefits of cold depend, however, on the power of the individual to react and this varies greatly and seems to be dependent on the vasomotor tone. Those suffering from any interference with the free passage of air through the nostrils do not react well to cold air. Inflammatory conditions of the larynx and trachea may be subjected to additional irritation by cold air. To benefit from a winter in the north, the intestinal tract and the kidneys should be in good working order. Extreme cold is not desirable for those suffering from gout, arthritis or neuritis. For those suffering from advanced degeneration of any organ, for those advanced in years and for the very young extreme cold may be distinctly harmful. It cannot be too strongly emphasized that all the benefit to be derived from a residence in the north will depend on the completeness with which an outdoor life is lived.

Physiologic Observations on Pike's Peak, Colorado

PROF. YANDELL HENDERSON, New Haven, Conn.: The heart rate at this altitude is somewhat accelerated, even during rest, and greatly accelerated by exercise, but arterial pressure is not considerably changed. The hemorrhages formerly noted are a myth. Respiration is considerably increased, even during rest, and enormously augmented by even moderate exertion. The red corpuscles are increased 30 or 40 per cent.; the total volume of blood, however, is unchanged. The most important element of acclimatization to low barometric pressure is the development by the lungs of a capacity to secrete oxygen from the alveolar air into the blood, thus compensating in part for lessened diffusion because of the low oxygen pressure in the atmosphere at such an elevation (14,147 feet).

High Altitude and the Blood

DR. W. A. CAMPBELL, Colorado Springs, Colo.: The study of the blood has been a difficult one, subject to many corrections, owing to the variation in its component parts in the daily walks of life. The study of the blood changes at high altitudes is attended by many additional intricate problems owing to the changed climate environments and the inaccessibility of places of observation. Altitude increases the erythrocytes, hemoglobin and leukocytes, thereby furnishing three of the most important factors in the building up of a stronger resistance against infectious diseases. The heart acts faster and the pressure is lower, which tends to strengthen the cardiac muscles. Caution must be exercised in the beginning that the muscles be not overworked. The lack of oxygen and the consequent increased respiratory change cause a more rapid metamorphosis of tissue, thereby aiding in the throwing off of morbid processes. The same condition brings into action portions of the lung unused in lower altitudes. A study of blood conditions ought to convince any unprejudiced individual that altitude is not a fake, and that many clinical cases can be selected that will be materially benefited by change of altitude.

DISCUSSION

DR. JUDSON DALAND, Philadelphia: A few years ago the late Dr. Solly and I decided to go to Pike's Peak and do a little experimental work. Dr. Solly experienced no discomfort from dyspnea or cyanosis while my lips became cyanosed. We remained on the peak four hours. No especially bad effect was noticed during that time. Microscopically, it was shown that the number of red corpuscles was increased, but there was no morphologic change in the blood. There was no apparent leukocytosis. The changes in the readings of the hematometer were not great enough to be of any significance. My own pulse was 73, respirations, 34; volume from 94 to 99, and coloring matter 92. An intense headache, from which I suffered, disappeared when I arrived at Colorado Springs. I drew into my work two brothers, one aged 20, weighing 209 pounds, and 5 feet 8 inches in height, who had been a resident at Pike's Peak for some weeks. His volume per cent. was 102, hemoglobin 115. He had no leukocytosis. He was sufficiently strong to carry a child 1½ miles up the mountain. He had become accustomed to the altitude. The other brother was 29 years of age, and his volume was 104 and hemoglobin 110. In his case there was no manifest leukocytosis. It seems to me that my observations bring out two important points: first, the value of physiologic functioning on the part of the alveolar cells to secrete oxygen, and, second, the leukocytosis which is really a lymphocytosis. At an altitude of more than 2,000 feet, one experiences a most remarkable air-hunger.

DR. HOAGLAND, Colorado Springs, Colo.: I have experimented with the blood on Pike's Peak, and have time and again noticed that when the timber-line is passed, half a dozen persons in the car will turn pale. Sometimes their color returns within two minutes and the individuals are able to eat sandwiches and drink coffee. Altitude seems to help certain persons with weakened heart muscles. When there is a defect in contractility, then any change in altitude is contra-indicated. In conditions of weak heart alone, patients do as well as anywhere. There is an impression in the United States that the mortality from pneumonia is higher in high altitudes than in lower ones. A comparison of statistics shows that there is no such difference. Living in a high altitude increases the capacity of the chest. When I first went to live at Colorado Springs my chest measured 35 inches; it now measures 41 inches.

DR. FOX C. GARDINER, Colorado Springs, Colo.: I agree with Dr. Hoagland in what he said regarding heart trouble. I know of one man who was told that he could not live on account of heart trouble; he went up 8,000 feet and lived for many years.

DR. DELANCEY ROCHESTER, Buffalo, N. Y.: Altitude causes an increase in hemoglobin and in the number of red and white blood-cells; there is a dilatation of the peripheral capillaries. There is an increase in the polymorphonuclears, but not in the lymphocytes.

DR. F. M. POTTENGER, Monrovia, Cal.: There is a possibility of our drawing wrong conclusions from these physiologic inquiries. The important point is that high altitude causes an increase in the components of the blood and this is necessary in order to maintain the individual. I practice at a low altitude and receive patients from higher altitudes and find that the patients are benefited both ways. Clinically, the best observations are those of Dr. Henderson, which refer to the development of the lung capacity to secrete oxygen from the alveolar air into the blood.

DR. A. J. RICHER, Montreal, Canada: There is no doubt but that the blood-changes occasioned by high altitudes are due to a struggle for adaptation. When sending a patient to a high altitude, we inflict an extra amount of effort in order to secure adaptation.

DR. CARROLL E. EDSON, Denver: When a splitting headache occurs it would be interesting to know whether it may not be due to an unrecognized collection which has drained from the frontal sinus. It is difficult to state whether these headaches are purely a circulatory phenomenon. In my opinion, the question of the secretion of oxygen from the alveolar air into the blood has not been proved. Cannot the balance of oxygen in the blood be maintained by quickening the power of the right side of the heart?

DR. A. W. JAYNE, Denver: The recent observations made on the blood explain many things that we were formerly unable to explain clinically. I went to Colorado in the early eighties and practiced medicine at an altitude of 9,000 feet or over. To my surprise, I found that surgical wounds healed with great ease and usually by first intention. Fractures got well promptly and patients made good recoveries in all acute diseases. Many cases of pneumonia are fatal in mining camps but this is because of the unrestrained lives of the men, and because they frequently come down with pneumonia after a period of intoxication.

DR. ROBERT H. BABCOCK, Chicago: When a patient with heart disease asks me if it is advisable to go to a high altitude, I confess that I do not know just what to answer. I usually tell him, even though he has a manifest cardiac lesion, that he may go if he keeps quiet. I even tell patients with dyspnea and tachycardia to go, but to keep quiet for a few days or a week, and that in all probability they will not suffer afterward.

PROF. YANDELL HENDERSON, New Haven, Conn.: I do not think that the headaches in these cases are due to sinus trouble. Dr. Webb is responsible for the term "lymphocytes;" it was his idea that lymphocytosis is a factor in combating tuberculosis. As to the respiratory change, one cannot get rid of any more carbon dioxid at a high altitude than at a lower one but the intake of oxygen is greater; to get rid of this oxygen the patient has to work harder.

Pneumonia in Open Air Sanatoriums

DR. HARRY LEE BARNES, Wallum Lake, R. I.: The reports from twenty-seven sanatoriums for tuberculosis, equivalent to observation on 13,582 patients for one year, showed eighteen cases of lobar pneumonia with seven deaths or a mortality rate of 53.99 per hundred thousand population. If allowance be made for a different age distribution in sanatoriums from that of the general population, the death-rate from lobar pneumonia in sanatoriums would be about 28.46 per hundred thousand population. After due allowances are made, it seems that the mortality rate of lobar pneumonia is about the same in sanatoriums as in the general community. The impression that lobar pneumonia is rare in sanatoriums for the tuberculous is due to the small population under observation, and to the fact that the age of the patients is such that it would normally furnish but 36.6 per cent. of the lobar pneumonia cases. This investigation furnished no evidence that the incidence of lobar pneumonia is influenced by the open-air life in sanatoriums. The death-rate from all forms of pneumonia in sanatoriums is 117.83 instead of 32.78 per hundred thousand as should be expected, the frequency being largely due to aspiration pneumonia.

DISCUSSION

DR. LAWRASON BROWN, Saranac Lake, N. Y.: It is not an easy thing to make a diagnosis of pneumonia when the patient is afflicted with pulmonary tuberculosis. The mere finding of the pneumococci does not prove anything. I question whether the diagnosis is ever made, except at autopsy. Following a hemoptysis, there sometimes is an involvement of an entire lobe, and occasionally this clears up but it is difficult to say that such a case is one of lobar pneumonia.

DR. HARRY LEE BARNES, Wallum Lake, R. I.: In every case it is difficult to make a diagnosis of pneumonia in a patient having pulmonary tuberculosis. One such case has been diagnosed by Dr. Trudeau, one by Dr. Baldwin, one by Dr. Griffith and one by Dr. Bowditch. I have seen one case in a woman who entered the hospital because of a slight tuberculous temperature. Suddenly, the temperature went up to 103 or 104 F. and stayed high for eight or nine days; it then went down with the typical crisis of pneumonia. The patient had typical rusty sputum, dyspnea and cyanosis. She presented every clinical symptom of pneumonia and there were an enormous number of pneumococci in the sputum.

Results of Dispensary Work in Control of Tuberculosis

DR. CLEVELAND FLOYD, Boston, Mass.: I have been making a statistical study in order to show as far as possible how well the dispensary meets the demands made on it among such patients as presented themselves at the clinic of the Boston Consumptives' Hospital. Five thousand patients were observed for an average period of two years and five months. Of this number 1,315 were lost to the clinic for various reasons. Among 1,707 cases which were considered negative at their first examination and which were examined recently, 604 patients were perfectly well and 528 reported themselves as well or had developed some other disease than pulmonary tuberculosis. In the group of negative cases, among 1,132 only twenty-four had developed phthisis during the period of observation of two and one-half years. In 748 suspected cases only sixty-two patients developed the active disease. Among a total of 1,130 suspected cases about 60 per cent. gave signs at the right apex. The other 40 per cent. were almost equally divided between questionable signs at the left apex and the base. Almost without exception these signs had cleared up or failed to develop. Where the right apex has shown questionable involvement, sixty-two patients developed phthisis.

DISCUSSION

DR. H. R. M. LANDIS, Philadelphia: The greatest drawback at present is the endeavor to recover too much territory. Out of 915 patients coming under my observation, who were treated on the basis that they were tuberculous, 410 died of the disease. Of 184 living, 107 were back at work. Patients discharged from the dispensary usually had the conviction that they were cured, and it was no longer necessary to pay any attention to the doctor's orders regarding their future care of themselves. They must be educated to keep up the method of living outlined for them.

DR. CHARLES L. MINOR, Asheville, N. C.: A doctor is derelict if he does not watch his patient closely after the latter is discharged as cured. The patient should be seen first every two weeks then every month and then every three months for three years.

DR. H. H. WHITCOMB, Norristown, Pa.: The great trouble we meet with is the ignorance of the patients who will not return to the dispensary unless they are receiving medicine. We are in the habit of giving them some placebo which they must return to have refilled.

The Rôle Played by Resistance in Pulmonary Tuberculosis

DR. A. J. RICHER, Montreal, Canada: During the last ten years there has been a growing tendency toward the belief that tuberculous infection occurs during the first years of life. The conclusions on this subject may be summed up as follows: 1. Almost 90 per cent. of children of school age

react to tuberculin (cutaneous). 2. The majority of implantations are of human origin. 3. With few exceptions the pathway of infection has been the digestive tract. 4. Infection in early life conveys a degree of immunity if the doses of infective material are not large or rapidly successive. The resistance offered by children suffering from pulmonary tuberculosis is an incontestable fact. Why, then, should this disease in adults so frequently terminate fatally? Has the immunity of childhood exhausted itself? Is it because the tissues of the adult differ from those of the child so materially? These questions must for the present remain unanswered. The system of Patterson and Frimley offered the advantages that the treatment required only about one-half the time that was needed for the continuous rest treatment. Relapses are almost *nil*. Employment during the treatment prevents discontent and apathy. Occupation of body and mind permits the patient to resume his work untainted by the malady which the reclining chair breeds, namely, disinclination for work. No special climate is required. The patient in the advanced stage of the disease has some chance of recovery. The work performed by the patients lessens their maintenance materially. The Frimley method is applicable to all cases of tuberculosis.

DISCUSSION

DR. HERBERT M. KING, Liberty, N. Y.: Exercise has been used as a method of treatment for tuberculosis for a long time. The time consumed in these exercises is too short to get the proper results. Whether the effects which result from the therapeutic employment of exercise are due to autoinoculation or to tuberculin, I cannot say. Our experience with the opsonic index is not sufficient to prove anything. The point in the adoption of any therapeutic measure which makes it applicable is that we should have some criteria by which to regulate the dose. In my experience therapeutic exercises have not proved applicable to all patients. I am timorous regarding exercise when there are increasing areas of physical signs. This is not a method to be adopted immediately after the patient has been admitted to a sanatorium. All patients are required to have an initial period of rest. When there is a quiescent condition the patients are urged to do the walking exercises prescribed. With this class of patients the results have been good, and without this exercise I do not believe we would have been able to discharge so many patients. This method is useful in gauging the amount of work that the patient may safely do. The patient should be instructed to maintain the same conditions of rest and exercise outside the sanatorium as in it. One can never tell until after trying whether a patient will respond favorably or unfavorably to a given amount of exercise. If the temperature falls to normal within a half hour after he has completed his exercise, it is considered safe for him to continue it. If the temperature remains up longer than this, the exercise is stopped for a time.

DR. H. J. PRATT, Boston: Dr. Patterson deserves great credit for showing that patients with advanced tuberculosis can be put in good condition and do hard labor without any ill effects; he also deserves credit for the place he has given to rest. But he has done harm indirectly because people do not understand his methods correctly. It should be remembered that in the early days of this method patients were chosen from among those who had been three months in the hospital. They had all passed through three months of rest. What we need is statistics under different methods of treatment. I wonder if the advocates of the exercise treatment can offer statistics comparable with those we have obtained. During the active stage of the disease, I believe the proper treatment is rest, as absolute as possible. I have kept these patients at rest after the temperature was normal and the pulse-rate low, until immunity was established. Some I have kept quiet in bed four or five months or longer. Many have gone back to work at their original employment.

DR. HUGH M. KINGHORN, Saranac Lake, N. Y.: Exercise in the form of walking is employed by all lung specialists when, in the opinion of the physician, the patient is in condition to walk. This is a matter of judgment; it is also a matter of judgment at what stage in the treatment a patient should begin to take exercise. When labor is combined with exercise there is a wide diversity of opinion among lung specialists. I am not aware that there is any proof that these autoinoculations are of any value. Patterson used the opsonic test to prove auto-inoculation after exercise; this test has been proved to be of no value. The question of labor is one of considerable risk and a note of warning should be sounded against its general adoption. The object of the period of rest is to cause a disappearance of symptoms and the object of the exercise is to tone up the system. It is not a question of causing auto-inoculation or of seeing how much work the patient can do. The open-air plan of treatment, as practiced by Dr. Trudeau, has stood the test of time and given brilliant results.

DR. J. N. HALL, Denver: In Denver there are many physicians suffering from the disease, and it is striking how many of them make excellent recoveries. I have had over 100 physicians under my care; two of them have been there but two or three years, but the others have all been there five years or longer and all are free from symptoms of tuberculosis. I believe that being physicians they recognize their condition earlier and come early enough to be cared for properly.

DR. CLEVELAND FLOYD, Boston: Without doubt children have greater resistance to tuberculosis than adults. The two factors concerned are auto-inoculation and the activity of the lymph system. As to the question of rest and exercise, the important question is, when is rest needed and when is exercise needed? Better work could be done if we could obtain a better blood-picture. Exercise has been a great help to me in telling me whether a patient is getting too much tuberculin. The severity of the infection in individual cases would help us in judging of the cases. If we could isolate the tubercle bacilli from the patient and test their virulence on guinea-pigs we might learn how severe the infection is and get some idea of what the patient will do.

DR. LAWRASON BROWN, Saranac Lake, N. Y.: Too little time is given, as a rule, to raising the resistance of the patient. Giving rest to the individual will do more to stamp out tuberculosis than any attack on the tubercle bacillus. I doubt if graded exercise is better than tuberculin. As to Dr. Patterson's patients not relapsing, I believe they do relapse; they are not watched long enough. One cannot tell the results in one, two, or three years, but must wait longer. We do not use work for the purpose of getting auto-intoxication, but with the purpose of getting the patient ready to resume his occupation. The work-shop is a blessing, and patients are put to such work as will develop the muscles involved and those that they will use in their future work. I believe all patients are auto-inoculated. A wise plan to follow is to have the patient exercise one day, keep quiet the next, etc. If tuberculin is used, order "no exercise" until the day following.

DR. A. J. RICHER, Montreal, Canada: Patterson's treatment is based on resistance and this seems to have escaped the attention of most men.

Chronic Septic Endocarditis

DR. GLENTWORTH R. BUTLER, Brooklyn, N. Y.: About 250 cases of this class have been studied by Osler, Billings, Libman, and others, so that we are now in a position to define this type as a distinct entity among the endocardites. In the great majority of instances there is a bacteremia, and the organism most frequently found is a streptococcus. The pathologic anatomy is that of a vegetative rather than an ulcerative endocarditis. This form of endocarditis runs a course of from four to twelve months and even longer. From a clinical point of view its latency is remarkable. Commonly there is no leukocytosis, but after the disease has progressed for some time there is a progressive anemia. This form of endocarditis is almost always engrafted on an old mitral or aortic valvular lesion. Among other signs are enlargement of the spleen, digestive disturbances, pains in the joints, bones, muscles, or various nerves. The diagnosis during the early stages is nearly always difficult and the prognosis distinctly unfavorable.

DISCUSSION

DR. CHARLES L. MINOR, Asheville, N. C.: Some state that these cases are due to the influenza bacillus and not to the streptococcus. Dr. Rosenow says that many cases are due to the pneumococcus. The lesion in the heart is followed by definite lesions elsewhere. A lesion of the aortic valve may be followed by one of the mitral valve, then of the chordæ tendineæ, then of the columnæ carneæ, and possibly ulcerations occur.

DR. HERBERT MAXON KING, Liberty, N. Y.: During the past year I have seen two cases at the Loomis Sanitarium and in both instances a diagnosis of tuberculosis was made. In one case the blood-culture resulted in the recovery of the streptococcus; this patient did not develop petechial spots until two or three months before his death. In the second case there was an enormously enlarged spleen suggestive of Banti's disease. There were large areas of petechial spots over definitely separated parts of the body. There was no leukocytosis but a leukopenia. So far the organism has not been recovered from the blood.

DR. MORRIS MANGES, New York City: The picture is so characteristic that after seeing a number of these cases one cannot mistake them. One should inspect carefully the mucous membrane of the lower eyelid and the folds of the axilla as petechial spots are often found in these localities. Painful nodes may be found alongside the big toe or on the hand, the favorite place being about the finger-nails; these are absoultely characteristic of the disease. Blood-cultures, taken a dozen or more times, may give negative results, but with the presence of these swellings a diagnosis may safely be made. There may be enormous changes in the vegetations and yet the heart go on for months and no physical signs be manifested, except those due to failing circulation. Characteristic lesions are found in the kidneys, which occur only in ulcerative endocarditis. The vaccines, both stock and autogenous have thus far been useless. Remissions sometimes occur and last for months but the disease resumes its course and goes on to a fatal termination. Hemorrhage is a curious feature and gives a clew to those not familiar with this disease.

DR. J. H. ELLIOTT, Toronto, Canada: An interesting case occurred in a woman, aged 25, who had mitral stenosis. After an influenzal cold, she had fever, persistent cough, and changes in the lungs which suggested tuberculosis. Finally a diagnosis of septic endocarditis was made. Signs of mitral insufficiency developed, then embolism of the tibial artery, which was followed by dry gangrene of the lower extremities. A thrombus of the femoral artery followed. At autopsy the thrombus was found to extend to one-half inch through the iliac into the aorta.

DR. A. JACOBI, New York City: There may be an entire absence of symptoms in these cases. In every case coming under my observation in which there was an absence of symptoms at autopsy this was explained by the fact that the deposits were away from the edge of the valves and did not change the direction of the blood-current.

Primary Malignant Disease of the Lung

DR. ROLAND G. CURTIN, Philadelphia: The rarity of primary cancer of the lung is shown by the statistics of Dr. John A. McGlinn of Philadelphia who in 8,515 consecutive autopsies found cancer in 457 bodies only four of which were primary cancer of the lung. In my own experience I have seen seven cases of primary cancer and sarcoma of the lung. Of these four cancers were in males and two in females. One sarcoma was in a male. The right side was involved in six cases and the left in one. Four cases were tapped and three were not. Tapping gave relief in two cases while in two it did not. There was marked dyspnea in six of the seven cases. The average age of the patients was 52 years. The most common complication was metastasis in the surrounding tissues; the pleura was almost always affected. The first symptom was often a gradual loss of flesh. Pain may be slight, at first, and is nearly always on the side affected. There is blood-spitting, so characteristic that a diagnosis may be made from that alone. There is a dark purple globule of blood encased in a transparent glazed membrane about the size of the end of the little finger. The physical signs are those of a solid tumor or those of pleurisy.

DISCUSSION

DR. J. H. ELLIOTT, Toronto, Canada: A striking feature in cases of primary carcinoma of the lungs is that the expectoration is not purulent and hemoptysis occurs later than in cases of pulmonary tuberculosis. At no time will there be currant-jelly expectoration but a mucoid expectoration suggestive of malignant disease. Many cases that are regarded as primary are not such at all.

DR. MORRIS MANGES, New York: Two instances have come under my observation in which a new growth of the lungs was diagnosed by hardening the sputum and cutting it as one would a section. The presence of small thoracic glands is not infrequent. The amount of bloody fluid removed in these cases by aspiration is usually large. Cytology cannot be used because of the bloody mucus. The failure to relieve after aspiration is very often due to an enlarged bronchial gland which causes dyspnea.

DR. VINCENT Y. BOWDITCH, Boston: In a case which proved at autopsy to be a case of malignant disease of the lungs I was misled in making a diagnosis of tuberculosis by the presence of dulness at the right apex, fever, and bloody sputum.

DR. EDWARD B. BALDWIN, Saranac Lake, N. Y.: A case of sarcoma of the pleura came under my observation which presented all the cardinal symptoms of pulmonary tuberculosis. The polymorphonuclear leukocytosis could not be accounted for, but later, when the autopsy was made, sarcoma of the pleura was found which extended through the mediastinum and finally involved the abdomen and peritoneum.

DR. A. JACOBI, New York: I have seen a few cases of primary carcinoma of the lung. I have seen cases of mediastinal adenoma; in one instance the growth was very large and the glands were enlarged about the fourth and fifth ribs. It is my impression that a large number of these cases of carcinoma of the lungs are secondary and that the primary cases are very rare. It is a mistake to suppose that tuberculosis and carcinoma may not be found associated. Modern surgery of the chest, which has developed so rapidly during the past few years, may be of some service in these cases provided the diagnosis is made early enough.

Treatment of Arteriosclerosis

DR. T. D. COLEMAN, Atlanta, Ga.: While the blood-pressure apparatus is very valuable, there is no instrument that can take the place of the finger nor can any instrument teach as much about the pulse as can be learned by palpation. The widest field for good is in the prevention rather than the cure of arteriosclerosis. All causes which we know produce the condition should be eliminated. Excesses of all kinds, mental as well as physical, should be avoided. Alcohol, coffee, tea and tobacco should be used in moderation, if at all. The treatment of arteriosclerosis may conveniently be divided into hygienic, dietetic and medicinal. In advanced cases strictly restricted diet is at times imperative. Nitroglycerin may be employed for a long time; the objection to it, however, is its evanescence. The more lasting effects of the nitrites make them preferable.

DISCUSSION

DR. JAMES M. ANDERS, Philadelphia: After all, the instrumental measurement of blood-pressure is less valuable than careful palpation; the latter enables one to distinguish between actual arteriosclerosis and high tension, and this is important from the standpoint of treatment. One must search for the cause in each individual case and then attempt to remove it. In many cases due to high-tension living the rest cure together with vasodilators is highly successful. The prolonged use of sodium nitrite will benefit many patients if its use is continued over a sufficient length of time. It softens the vascular walls and reduces the viscosity of the blood. If this drug disagrees with the stomach function more may be lost than gained by its employment. In cases due to syphilis iodids should be given with a free hand. The

benefits of sodium nitrite are more lasting than those of nitroglycerin.

DR. A. JACOBI, New York: The only preventive of arteriosclerosis is to die in time. None of us can escape arteriosclerosis after we reach middle life. If one does not feel it or realize it, the reason is that it is less disseminated and more localized in certain parts. As to the treatment, we have been told that large meals should be avoided and food should be taken slowly. Few Americans know how to eat, and especially doctors. Do not drink much, remember that sipping water increases the amount circulating in the blood-vessels from 5 to 8 per cent. in a few minutes. Divide a glass of water into six parts and take one every ten minutes. In this way the stomach is not filled. The well-to-do can take their time in eating and drinking, but the majority of people cannot do this. These patients, like those with tuberculosis, should be watched with care. Iodin is useful in the treatment and many can take this who cannot take potassium iodid. Small doses of the alkalies, sulphates, phosphates, carbonates and some magnesium will be found useful. By taking these salts, some men 70 and 75 years of age are able to live comfortable lives and to attend to business. For the bad attacks of arteriosclerosis, particularly those caused by deposits in the coronary arteries, causing angina pectoris, with very severe pain, doses of nitrites with morphin may be given. My prescription is one-quarter grain of morphin and from one one-hundredth to one one-hundred and fiftieth of a grain of atropin having the patient place it on his tongue and suck it slowly.

DR. CHARLES L. MINOR, Asheville, N. C.: Many people lead such foolish lives that it is useless to speak of prophylaxis to them. As to the drug treatment, potassium iodid, in doses of 3 grains, is of considerable value, but a combination of dietetic and psychical treatment is better. Take two meals instead of three, avoid heating foods and cocktails. It is useless to attempt to undo what has already been done.

DR. THOMAS DARLINGTON, New York: I have always been interested in the question of longevity. In one family with which I am acquainted there were three members whose ages were respectively 100, 101 and 103 years. Four others are over 90 and five others over 86. In reply to inquiry as to how they lived to such an age they all gave the same experience, that is, they followed Dr. Jacobi's advice: "Eat sparingly and slowly; keep the bowels open."

DR. EDWARD R. BALDWIN, Saranac Lake, N. Y.: In institutions the inmates are very prone to overeat and my experience has proved that this is a large factor in the production of arteriosclerosis.

Recurrent Febrile Attacks in Chronic Tuberculosis

DR. CARROLL E. EDSON, Denver: There is danger of too close attention to the tubercular process in chronic phthisis. Patients have a tendency to attribute increased fever and cough to overdoing or to "taking cold." The physician is apt to attribute febrile recurrences to tuberculous activity when it is really due to other causes. Almost invariably new activity will show itself at the edge of previously unaffected tissue. Observations of patients having certain characteristics of recurrent periodic spells of fever with and without increase of cough, frequently without alteration in the physical signs in the chest, may seem to be due to inflammation or infection, but in reality they represent eliminative processes. Acting on this theory, I have found that the use of oxidizing aids, salicylates, potash and purgatives, shortened these attacks, and that by taking account of the periodicity of the attacks and instituting medication before the periods, the attacks may be avoided or mitigated. These attacks are apparently pulmonic in origin and due to accumulated unoxidized pyrogenous material as is indicated by the prompt and complete relief obtained when such an origin is made the point of therapeutic attack.

DISCUSSION

DR. DE LANCEY ROCHESTER, Buffalo, N. Y.: I had several cases of recurrent febrile attacks in tuberculous patients which seemed inexplicable. It was only by the most careful examination that the cause of the trouble was found. The alkaline diuretics are of great value and tend to prevent the recurrence of these attacks.

DR. CHARLES L. MINOR, Asheville, N. C.: We have all blamed the general practitioner for ascribing to malaria fevers due to a beginning tuberculosis, and special workers in tuberculosis fail to ascribe to tuberculosis all the fevers they see. I am not prepared to give any theoretic explanation of these fevers; however, an exasperating and obstinate temperature may be kept up by this intestinal fermentation and cleared up only by calomel and antiseptic treatment. Some patients coming under my observation have stayed in bed weeks or months with fever and it disappeared only when they got up.

DR. EDWARD G. BALDWIN, Saranac Lake, N. Y.: The word "anaphylaxis" is now very common in literature; the Germans attribute all fevers to anaphylaxis and intestinal symptoms as well. A better term would be "sensitization to definite proteids." The mere fact that expectoration does not increase in some cases of tuberculosis with fever is not necessarily proof that there is no congestion in the focus of tuberculosis. There is a great deal of experimental proof to show that unstable condition of these tuberculous patients, and fever can be excited by slight changes in the tuberculous foci.

DR. LAWRASON BROWN, Saranac Lake, N. Y.: I have seen a number of these cases of recurrent febrile attacks in chronic tuberculosis cured by prolonged rest in bed. When these attacks come on one after another we keep the patient in bed sometimes two or three months, or until the attacks cease altogether. In studying the bacteriology of the blood of patients afflicted with pulmonary tuberculosis I have found secondary organisms circulating in the blood in a number of instances. Anaphylaxis may be due to a dissolution of these organisms. This is a factor that should be taken into consideration in our studies of these peculiar attacks of fever in patients with chronic tuberculosis.

DR. H. MCL. KINGHORN, Saranac Lake, N. Y.: These febrile attacks occur in far-advanced cases of tuberculosis. If the patient has been running a normal temperature, he may be assured that he will get through the first attack quickly. If the attack lasts three or four days, he should be kept in bed three or four days and then allowed to get up and around slowly. Whatever may be the cause of the attack, the focus of the disease is easily disturbed and it is necessary to get the patient in a stable condition. Clinically, it has been noted that the next attack will not occur so soon as the last, and finally the patient is likely to outgrow them altogether. During these attacks exercise should be withheld.

The Influence of Carbonated Brine Baths on Blood-Pressure

DR. JOHN M. SWAN, Rochester, N. Y.: Carbonated brine baths have no constant effect on the blood-pressure in the human subject. In the cases under observation the systolic pressure was raised more frequently than it was lowered by these baths; the tendency of the baths is to raise the blood-pressure. There is no method of determining in advance whether a given treatment will be followed by an elevation or a fall of pressure. In a series of eighty-one cases, the systolic pressure was higher at the end of the course of treatment than at the beginning in thirty-nine instances, lower in thirty-four, and unchanged in eight. In cases of fibroid myocarditis the pressure effect is inconstant. It seems to me a dangerous proceeding to use a form of treatment in a case of cardiac fibrosis which may be followed by an increase of systolic pressure of 22 mm. or an increase of pulse-pressure of 32 mm. In cases of parenchymatous myocarditis, the effect of the baths on blood-pressure was usually to raise it, but in some cases the effect was to reduce both the systolic and the pulse-pressures. In cases of dilatation of the heart, hypertrophy and dilatation, mitral regurgitation, hypertrophy, tachycardia, and cases of aortic regurgitation, the same uncertainty of results was observed. The benefit in the subjective symptoms in cases of heart disease which follows a course of carbonated brine baths is not dependent on the influence of the treatment on blood-pressure.

MEDICAL SOCIETY OF NEW JERSEY

One Hundred and Forty-Sixth Annual Meeting, held at Spring Lake, N. J., June 11-13, 1912

Under the presidency of DR. DANIEL STROCK, Camden

Officers Elected

The following officers were elected for the ensuing year: president, Dr. Norton L. Wilson, Elizabeth; vice-presidents, Drs. Enoch Hollingshead, Pemberton; F. D. Gray, Jersey City; W. J. Chandler, South Orange; recording-secretary, Dr. T. N. Gray, East Orange; corresponding secretary, Dr. H. A. Stout, Wenonah; treasurer, Dr. Archibald Mercer, Newark.

The next meeting will take place at Spring Lake, N. J., June 17 to 19, 1913.

Vaccine Therapy

DR. GORDON K. DICKINSON, Jersey City: In order to have success in treatment, three conditions must obtain: first, the germs inducing the lesions should be discovered in the individual, from which an autogenous vaccine may be made; second, there must be sufficient arterial and lymph-supply to the affected tissue, in order that the serum and its contained phagocytes and antibodies may abundantly reach it; third, the lesion must not have exhausted the antibody-forming organs. In accurately measured doses, properly spaced as to time, we gain in opsonins and leukocytes. If the dose be too great, we have a diminution in the production, exhaustion of tissue and added danger.

DISCUSSION

DR. JOHN C. MCCOY, Paterson: In the use of vaccines in surgical conditions favorable results may be obtained in those patients whose general health was good at the time of the injury or infection. In patients whose vitality is at a low ebb and there is poor reacting ability, the results are either indifferent or *nil*. In surgical diseases, I have not seen results from the use of autogenous vaccines which would lead me to rely solely on this last method of combating infection. The indiscriminate use of stock vaccines should be mentioned only to be condemned.

DR. GEORGE E. MCLAUGHLIN, Jersey City: One of the great points in vaccine therapy is the accurate standardization, and this cannot be made sure of with stock vaccines. The lower the degree of heat, the better the emulsion will be. We are experimenting along the lines of not using heat at all.

DR. I. H. HANCE, Lakewood: In a class of cases that used to be perfectly hopeless, the use of the immune blood-serum affords a prospect of success that we never had in the past. These are cases of hemophilia. I saw a child with hemophilia that would have bled to death had it not been for the injection of human blood-serum.

The Refracting Optician Evil

DR. LINN EMERSON, Orange: In spite of his claim to the contrary, the refracting optician is, as a rule, grossly incompetent; but he is making a strenuous fight for legal recognition. The general practitioner who permits his patients to go to the refracting optician is guilty of great folly; for he is sending away work that he should be doing himself. The use of drops by the general practitioner will enable him either to fit the patient with glasses himself, or to discover that it is a case for the ophthalmologist. The fitting of glasses is as much a branch of general medicine as is minor surgery.

Cyclic Vomiting in Children

DR. FRANK R. SANDT, Paterson: Our experience with such cases leads us to believe that cyclic vomiting is a disorder found only in children of the so-called nervous temperament, or in those who have inherited the neurotic tendency from their parents; that cyclic vomiting is primarily due to the effect of certain exhausting or depressing influences exerted on the nervous mechanism of digestion; that the intestinal toxemia is secondary, and only possible through the consequent perverted function of the digestive organs, especially the liver; and that the best lines of treatment are followed when attention is directed to the general physical well-being of the patient, rather than exclusively to the alimentary tract.

DISCUSSION

DR. CHARLES W. HARREYS, Ridgewood: I consider the headings under which cyclic vomiting is described as misleading. "Acetonemia" expresses the condition better. It is a well-defined process, and sharply separated from other intestinal toxemias of childhood. It is a chronic disease, and covers a period of life of from 2 to 12 years of age. Most patients recover eventually. I have detected the odor of acetone in two-thirds of thirty cases which I have seen before the onset of the vomiting and before the patient had been without food. The recent work in the use of normal serums and blood transfusion in the toxemias of pregnancy and uremia suggests a line of thought worthy of consideration. I am convinced that bicarbonate of soda is the most useful drug at our disposal for the control of the acute symptoms.

DR. ALEXANDER MARCY, JR., Riverton: Cyclic vomiting is a distinct form of disease. It is very often confused with other attacks of vomiting. There is always acetone in the breath and urine. There is always a preceding indicanuria. The symptoms of the disease are so characteristic that, having once observed a true case, one never can mistake it for anything else.

DR. PHILIP MARVEL, Atlantic City: I have no doubt that we shall find out sometime that there are relations in this disease that are very similar to the persistent pernicious vomiting in pregnancy. There is certainly a toxic state. It may be possible that we shall find that there is a specific history back of this condition, such as a chronic specific poison in the parents.

DR. HENRY CHAVANNE, Salem: I have had several cases of cyclic vomiting and handled them successfully. I used a tablet of codein in a specific quantity of water, and gave a teaspoonful every hour until the effect of the codein was evident and the child rested.

Diagnostic Pitfalls

DR. RICHARD C. CABOT, Boston: At the clinic at the Massachusetts General Hospital, where my work is done, we average six cases a week; and those who attend these exercises have in their hands the history sheet containing the results of the physical and laboratory examinations, as well as the history proper of each case. I am particular myself never to know or let anyone tell me the outcome of the case, as it has been shown at autopsy. I read the record aloud, discuss it with those present and commit myself as to what I think will have been found at autopsy. I also make them commit themselves, and then the pathologist demonstrates what actually was found. Three months ago we finished up our 3,000 autopsies; and although that is not a very large number of cases, the fact that they were studied both before and after death, gives one a basis of knowledge that, while not very wide, is very secure, so far as it goes. The percentages of success in diagnosis are as follows: Diabetes mellitus, 95 per cent.; typhoid, 92 per cent.; aortic regurgitation, 84 per cent.; cancer of colon, 74 per cent.; lobar pneumonia, 74 per cent.; chronic glomerulonephritis, 74 per cent.; cerebral tumor, 72.8 per cent.; tuberculous meningitis, 72 per cent.; gastric cancer, 72 per cent.; mitral stenosis, 69 per cent.; brain hemorrhage, 67 per cent.; septic meningitis, 64 per cent.; aortic stenosis, 61 per cent.; phthisis, active, 59 per cent.; miliary tuberculosis, 52 per cent.; chronic intestinal nephritis, 50 per cent.; thoracic aneurysm, 50 per cent.; hepatic cirrhosis, 39 per cent.; acute endocarditis, 39 per cent.; peptic ulcer, 36 per cent.; suppurative nephritis, 35 per cent.; renal tuberculosis, 33.3 per cent.; bronchopneumonia, 33 per cent.; vertebral tuberculosis, 23 per cent.; chronic myocarditis, 22 per cent.; hepatic abscess, 20 per cent.; acute pericarditis, 20 per cent.; acute nephritis, 16 per cent. Of all the various methods of general diagnosis, blood-pressure examinations are the most valuable.

Moving-Picture Illustrations of Nervous Diseases

DR. T. H. WEISENBURG, Philadelphia: These pictures represent the first systematic attempts ever made to show by moving pictures, not only the gait, reflexes and tremors that are common to nervous diseases, but also examples of the diseases themselves. Not only is it an excellent method of

teaching diseases of the nervous system, but it also furnishes a new method of scientific investigation; for many of the fleeting symptoms that cannot be detected by the eye are fully illustrated by the photographs.

Some Differences in the Surgery of Children and Adults

DR. E. W. HEDGES, Plainfield: Surgery is one of the many agencies for the betterment of child life. Appendicitis is harder to recognize in children than in adults; and there is need of earlier operation for this disease in them, because of the swollen omentum. There is much danger of infection of the fallopian tubes in young girls. In hernia there is a tendency to spontaneous cure in young children. Intra-abdominal pressure is the most frequent predisposing cause in the young. It should be treated by stopping coughs, relieving flatulence and preventing straining at stool or urination. The patient should be kept on his back, with the foot of the bed raised 20 degrees, for six weeks. One should operate only in strangulated or irreducible cases, or when the opening is unduly relaxed. Intussusception is more common in children, because of increased reflex irritability of the intestines. The intussusception is of varying types, and causes greater shock to the young than to adults. In operating one should use every precaution. The differences between the structure of the bone in children and in adults have a considerable influence in producing less tendency to fracture in the young and a quicker repair. Epiphyseal fractures are of the most frequent occurrence, and there is often an inherited tendency to fracture in rachitic children. Tuberculous glands of the neck are more common in children than in adults. The infecting agencies gain entrance through diseased structures in the nasopharynx.

DISCUSSION

DR. GORDON K. DICKINSON, Jersey City: I know of nothing more difficult than to make a diagnosis of acute appendicitis in childhood. If we make a diagnosis of appendicitis in these conditions, the appendicitis is simply the surgical technical end of a big lesion. If you have a case of cecocolitis in a woman or child, you must remember that the surgical portion of it may occur; and if you want to avoid appendicitis you must reach the cecocolitis. The great cause of cecocolitis is stuffing. I have seen more than one male child become sterilized through an operation for hernia, which might have been avoided. I do not believe it wise for even a careful man to operate on hernia in infancy. I feel that the tonsil is a very important organ to watch, because patients with infected tonsils so often go on to bacillemia and death. The tonsil that does not functionate properly should be enucleated. We get excellent results from bone fractures in children because their muscles are soft.

DR. W. H. LAWRENCE, JR., Summit: I have seen several cases of appendicitis in children under 6 months of age. I do not believe that it is due to a disturbed condition in the large intestine so frequently in children as in adults. In childhood appendicitis is usually due to mechanical interference with the appendix itself. Most of these cases are due to congenital malformation. We get more prompt union of fractures in early childhood than later. Although we have apparently early solid union of certain fractures of the shaft, the splints should not be removed too early, as we frequently see angulations form at the seat of fracture some weeks after the splints have been removed in children.

DR. F. D. GRAY, Jersey City: A condition that is deplorable is that of intestinal obstruction. All cases of intestinal obstruction should receive prompt treatment. We see a thoracic condition, particularly in children, that will simulate appendicitis—appendicular pneumonia or appendicular pleurisy. We should be on our guard, when children have symptoms of acute appendicitis, to be sure that they have not a pneumonia or a pleurisy. It is a good routine treatment to investigate the pulmonary condition in every case.

DR. JOHN C. MCCOY, Paterson: I have seen a large number of cases of appendicitis in children in which, by waiting, the diagnosis has been cleared up. Nearly all cases of appendicitis in children start from an inflammatory condition of the cecum. If you have the specimen examined toward the cecal end, you find the inflammation quite extensive in the area. In a series of 800 cases of appendicitis I have never had occasion to operate on a child under 6 months of age.

The Administration of Anesthetics to Children

DR. GEORGE E. TUERS, Paterson: There are practically but two anesthetics to be considered, chloroform and ether; and we should administer the least dangerous drug in the least dangerous way. Chloroform is the pleasanter of the two, but the more dangerous. I believe that ether may be used exclusively in all operations on children, without increasing the death-rate. The drop method with a simple inhaler should be employed, and the operation should preferably be performed in the early morning. Care should be taken to reassure the child and prevent its being frightened. One should begin by giving one drop to three respirations. As the feeling of fear or anxiety advances, gradually increase; and continue at the rate of one drop to two inspirations until complete narcosis is accomplished. Then return to the border line. There is no definite proportion between anesthetic and air, but be careful to keep the patient completely narcotized during the entire operation. The pupillary reflex is the most accurate index of the condition of the patient. If pneumonia follows an operation, it may as well be attributable to exposure as to the effects of the anesthetic.

DISCUSSION

DR. F. W. PINNEO, Newark: Ether is one of the best means we have of inducing anesthesia. Chloroform has been condemned. It is valuable under certain conditions and in certain cases. One of the recent advances has been the laboratory experiments of Henderson, showing the importance of acapnia and of carbon dioxid in the blood, as the best known stimulant to respiration, and how we have, with our methods, deprived the patients of this, many of the deaths being due to this fact. In regard to evenness in the administration of the anesthetic, its importance is well demonstrated by the fact that a subject who has been under chloroform cannot be again anesthetized within a few hours without great risk. The same danger is caused by allowing the depth of the anesthesia to vary during the operation.

DR. SAMUEL A. COSGROVE, Jersey City: The greater toxicity of chloroform as compared to ether is abundantly confirmed by experimental and clinical evidence. The sudden onset of symptoms has probably been observed by us all. Such a crisis is especially dangerous in the hands of the inexperienced. Whether this toxicity is greatly lessened by the plan of warming the vapor, or not, must remain for a wider use of this method to determine. In my own experience with it, I have never encountered any unpleasant reaction so far. Another most important phase of the action of chloroform is the delayed damage to various viscera. That the nitrous oxid-oxygen combination is not suitable to the needs of the general practitioner is proved. Many children are found in whom the fear of the anesthetic amounts to absolute terror. Deliberation in the induction under such circumstances is a cruel and needless prolongation of their suffering. The indicator of the extent of the reaction are the signs of the degree of narcosis. A priori, therefore, in a given patient, a definite reaction, as indicated by definite signs, must depend on the introduction into the circulation, or into contact with the susceptible cell-substances of a definite amount of the narcotic agent. Whether a narcotic agent be administered by a closed inhaler, by the open drop, or by one of the vapor methods, the amount actually absorbed must be constant, and the relative amount of the narcotic agent used out of the can has merely an economic, and no physiologic importance.

DR. PHILIP MARVEL, Atlantic City: There is no such thing as a traumatic pneumonia resulting from the irritation of the anesthetic. It is still a bacteriemic disease, as much as pneumonia without the presence of an anesthetic. To-day the tendency is to have some special person administer the anesthetic. The employment of women for this work is going to be one of the important advances—women who do not expect to be operators, and whose minds are not occupied by what the operator is doing.

DR. F. D. GRAY, Jersey City: There is just one matter of detail that is new. It is a suggestion recently made to combine with ether essence of orange. It masks the odor of the ether, so that the children are breathing something agreeable.

Blood-Pressure

DR. J. D. LIPPINCOTT, Newark: I wish to make a plea for a more general use of the sphygmomanometer, particularly in the diagnosis, prognosis and treatment of arteriosclerosis, acute and chronic nephritis and the toxemias of pregnancy. The routine use of this instrument I have found of inestimable value in my practice. In no other way can a physician judge the degree of hypertension accurately. The blood-pressure readings alone are worth more as a diagnostic aid than any other symptom. With reference to the blood-pressure of pregnant women, it has been found that a pressure below 125 mm. may be disregarded; while a pressure of from 125 to 150 mm. needs careful watching and moderate elimination treatment. A pressure of over 150 mm. requires unusually active elimination treatment and diet, and will, in all probability, especially if it shows a gradual tendency to rise, require the induction of labor. The abnormal urinary findings are of value only when qualified by blood-pressure readings. I would urge the regular taking of the blood-pressure every two weeks, as the urinalysis is made. If this is done, we may save such women from more than prodromal symptoms of toxemia.

DISCUSSION

DR. T. N. GRAY, East Orange: In the high blood-pressure we find the same form and degree of symptoms that we get from enlargement of the heart. There is a compensatory relation. The patient with 212 mm. did not have anything like the symptoms of the one with 194, with the threatening to life. We should be guided in our basal diagnosis by the general condition of the patient in connection with the reading of the instrument.

DR. FRANCIS R. HAUSSLING, Newark: The value of the sphygmomanometer as an aid to diagnosis in a few conditions is definitely demonstrated. It is easy of application, accurate, and cheap. I have collected 682 readings on 140 pregnant women, apparently in good health. In this series, the lowest systolic reading was 80 mm., the highest, 150 mm.—a difference of 70 mm. The average systolic reading was a trifle over 113 mm. The highest reading, 150 mm., occurred about six times; in less than 1 per cent. of the readings. In 91 per cent. of this series, the pressure fluctuated between 100 and 133 mm. The average reading in all normal antepartum cases was a little over 115 mm. We can recognize the presence of the eclamptic stage with the sphygmomanometer better than by any other means at our disposal. With or without symptoms, a blood-pressure of 150 mm. or over is a clear indication for the application of active treatment.

DR. JAMES G. PRENDERGAST, Philadelphia: In 85 per cent. of the cases in which hemorrhages have occurred after opening the eye, the taking of the blood-pressure has shown that arteriosclerosis and nephritis were back of them. All arteriosclerosis begins with toxemia. Every man when he reaches the age of forty should have a blood-pressure examination made every year from that time on.

DR. C. A. ROSENWASSER, Newark: Every man should have a sphgymomanometer. If you have none, however, you can tell the blood-pressure approximately in an easy way. The normal pulse is 72 sitting up. If the patient lies down, it drops six or eight. If it does not do so, something is wrong. If it goes up, you have increased blood-pressure. If you have a man in whom you have high blood-pressure and do not find the cause, look for tuberculosis; but first be sure that the instrument is correct.

Opportunities

DR. WILLIAM A. WESTCOTT, Berlin, N. J.: The medical profession differs from all others in the following respects: first, that there is no such thing as cooperation among doctors; and second, that the medical man's task is always serious and often terrible. No other work in life speaks so little for itself. The very nature of his calling makes the doctor's own interests secondary to the needs of others. The state binds him to maintain her rules for sanitation; but permits, through special privileges, a competition against the doctors greater than that endured by any other class of men. There are 1,100 drug stores doing business in New Jersey, doing a regular business of about $6,700 a day, and an irregular, or proprietary, business of $12,325 a day. The remedy for this great danger to the work of the physician and the general health of the state lies in better organization. The physicians of the state should perfect a system of quick communication, so that information regarding questions concerning them could be put into their possession within twenty-four hours; and they should endeavor to elect, irrespective of party lines, two or three good doctors in each branch of the legislature. By such means, ultimately, no medicine will be permitted to be practiced by any other than a well trained and competent man. The sale of proprietary medicines is the practice of medicine, and the maker of proprietary compounds should be required to conform to the same high standard as is now required of the regular physician.

DISCUSSION

DR. HOWARD F. PALM, Camden: The high plane of professional altruism is ever evident to the casual observer, in the conservation of the health and happiness of the public, especially so in preventive medicine, which is a direct blow at the legitimate income of the physician. One of the chief deleterious factors is the enormous traffic of free prescribing through the United States mail, which should receive serious attention at the hands of the medical profession. I was amazed to learn that the chief stumbling-block in the way of establishing a National Bureau of Health was the claim of 17,000,000 inhabitants of the United States who are clamoring for freedom from the medical profession. Here is another golden opportunity to start a professional missionary crusade. The only means of lessening unjust competition consists in protective legislation, with due consideration for legitimate commerce. Medical men usually make very poor politicians, which fact possibly accounts for our lack of proper representation within our legislative halls. In my opinion, the fight against osteopathy dwindles into the pale of insignificance, when compared with the gigantic task of combating this drug evil.

DR. LINN EMERSON, Orange: Although we have laws, it is difficult to get them enforced. There is in the *Orange Chronicle* an advertisement by a Dr. Mandeville, who guarantees to cure all chronic diseases of all sorts. I complained to the Orange postmaster. He said that my report had been forwarded to Washington. Nothing was heard from it. I have written three separate times to the fourth assistant postmaster, yet I have never received a reply from the Post-Office Department.

DR. C. A. ROSENWASSER, Newark: It is against the law of this state to advertise to cure incurable diseases; and if the doctors would proceed against Dr. Mandeville, his license could be revoked without the intervention of the postal authorities.

DR. R. C. NEWTON, Montclair: The first thing is to clean our own skirts. I have prescribed patent medicine, and have been taken to task for it. Our druggist does not put up salves and ointments that are nearly so smooth and pleasant as the patent medicines are. It is our business to educate the public, not in order to protect ourselves against fraud, but in order to protect the public against it.

Premature Arterial Senility

DR. W. BLAIR STEWART, Atlantic City: An excess of proteids or sugars will not be completely digested and will give rise to intestinal fermentation and the formation of toxic substances that are absorbed by the circulatory system. They act as irritants and increase the activity of the heart and blood-vessels, and must be eliminated by the kidneys, skin, or liver. Blood-pressure should be very carefully watched and held within safe limits. In early cases the removal of the cause will suffice. Many atheroma patients live for years with little or no discomfort, provided rational methods are exercised. If we physicians will regulate dietetics and exercise and break up the sedentary, lazy habits of our patients there will be less atheroma, greater longevity and increased happiness.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Internal Medicine, Chicago

July 15, X, No. 1, pp. 1-70

1 *Case of Diabetes Insipidus with Marked Reduction in Amount of Urine Following Rachiocentesis. J. B. Herrick, Chicago.
2 *Cobra Venom Hemolysis Test in Syphilis, with Report of 130 Reactions. W. J. Stone and R. Schottstaedt, Toledo, Ohio.
3 *Influence of Theophyllin on Nitrogenous Excretion and Partition. C. B. Farr and W. H. Welker, Philadelphia.
4 *Some Unfamiliar and Some New Periosteal Reflexes. A. Myerson, St. Louis.
5 Pancreas and Its Ducts in Congenital Obliteration of Bile-Ducts. A. F. Hess, New York.
6 *Comparison of Physical Signs and Skiagrams of Chest in Early Stages of Tuberculosis. H. Sewall and S. B. Childs, Denver.
7 Selective Relation of Certain Vital Stains to Tubercle. P. A. Lewis, Philadelphia.

1. **Diabetes Insipidus.**—This case of diabetes insipidus is reported by Herrick because of the remarkable effect of lumbar puncture in diminishing the amount of urine and raising its specific gravity. A man of 43 had for four years the typical manifestations of diabetes insipidus. The urine varied in amount from 7,500 to 11,000 c.c., and was always of low specific gravity (1.001). Lumbar puncture was made and less than 5 c.c. of fluid withdrawn, the fluid escaping slowly under low pressure. Within forty-eight hours the daily amount of urine had dropped to 660 c.c. Headache, pain in the back of the neck, anorexia and vomiting, with a feeling of general weakness, followed the puncture. Morphin was given for pain. Almost no fluid or food was taken for three or four days. But after the prostration following the puncture had disappeared, when morphin was stopped, and when food and water were freely taken, there was no thirst as before, the amount of urine for a period of four weeks, during which he was under observation, never exceeded 1,800 c.c. for twenty-four hours, and the specific gravity averaged 1.015, ranging from 1.005 (one record) to 1.031 (single specimen). It was for the purpose of obtaining the cerebrospinal fluid for investigation that the lumbar puncture was made. The result of the puncture suggests a certain relation between some cerebral condition and the polyuria. It also has a bearing on the theory of diabetes insipidus, which makes the disease largely dependent on the inability of the kidney to secrete a concentrated urine. A case like this would seem to show that under certain conditions the kidney of diabetes insipidus can, at least temporarily, pass a concentrated urine. The possible origin of the disease in this patient in a lesion of the brain, as in the hypophysis, and the very remarkable diminution in the amount of urine following lumbar puncture, which urine was of high specific gravity, with the bearing of this clinical experiment on questions of the pathogenesis of diabetes insipidus, are Herrick's reasons for making the report.

2. **Cobra Venom Reactions in Syphilis.**—In four patients with primary syphilis the authors found the cobra reaction positive in only one, or 25 per cent. In twenty-two cases of active secondary and tertiary syphilis the cobra venom reaction of Weil was positive in twenty, or 90.9 per cent. Of the two which did not give positive reactions, one was negative, while the other gave a "suspicious" reaction. The latter patient had been on mixed treatment for five years with two recent injections of salvarsan. If the test had been made two months, instead of two weeks, subsequent to the last injection of salvarsan the test would, in all probability, have been negative and he would have been classed with the "clinically cured."

In thirty-three cases of latent secondary and tertiary syphilis the cobra venom reaction of Weil was positive in twenty-nine, or 87.8 per cent. Of the four which did not give positive reactions, two were negative and two gave "suspicious" reactions. Both of the latter had had mixed treatment for more than one and one-half years with no recent active clinical signs of the disease. They would, under ordinary conditions, have been classed with the "clinically cured." In twenty clinically cured patients the cobra reaction was negative in all.

3. **Influence of Theophyllin on Nitrogenous Excretion.**—Theophyllin was found by the authors to promote the excretion of fluid in two cases but apparently did not affect, or even slightly diminished, the excretion of nitrogen. In a case of diffuse nephritis diuresis failed to develop and the nitrogen elimination was sharply reduced. In a case of chronic interstitial nephritis the urinary partition was apparently changed by the drug so that it approached more nearly the normal. This may have been due to natural causes incident to convalescence. The slight or doubtful influence of theophyllin on nitrogen excretion and its pronounced influence on the excretion of water and sodium chlorid suggests to the authors that this substance may act principally on the capsule of Bowman and little if at all on the tubules (Bowman-Heidenhein theory). Its failure to act in one case might then be attributed to extensive involvement of the glomeruli.

4. **New Periosteal Reflexes.**—The reflexes described by Myerson are as follows: 1. One, or rather a series, obtained by tapping with the ordinary reflex hammer and with moderate force the ulnar styloid process. This is best obtained with the patient lying on his back, his elbow flexed at an obtuse angle and resting on his body. Following this stimulation there results: (*a*) a contraction of the triceps described by Bechterew, a quick sharp contraction often unattended by movement of the arm; (*b*) a contraction of the posterior fibers of the deltoid, which occurs about as often as Type A; (*c*) a combination of both these: (*d*) when the response is very active the reflex spreads to the supraspinati and infraspinati, the rhomboids, the trapezius and the biceps. In general this reflex is an extensor response and may well be contrasted with that obtained from stimulation of the radial styloid which is a flexor response with contraction either of the supinator or biceps, or both, and in some cases spreading to pectoralis, anterior fibers of the deltoid—the well known and routine radial reflex. The ulnar styloid reflex may be elicited from any part of the ulna and even from the carpus and metacarpus. However, it is best elicited from the styloid, and as one goes up the forearm the type of reflex changes somewhat.

2. A series of homolateral and contralateral adductions or responses obtained from different bony points of the lower limb. Percussion of certain areas gives the following responses: (*a*) a homolateral adductor obtained from the internal condyle, the most common response; (*b*) a contralateral adductor, obtained from the same spot, always accompanied by the homolateral, much less common and generally less lively; (*c*) a homolateral obtained from the anterior surface of the tibia, best elicited from the middle of the shaft, somewhat sharper than the internal condylar response and nearly as frequent; (*d*) a contralateral from this area generally accompanied by the homolateral and less active than it; (*e*) a homolateral obtained from the external condyle; (*f*) a contralateral from the same area, more common and generally more lively than the homolateral, thus reversing the rule of the previous reflexes; (*g*) a homolateral from the sole of the foot, always accompanied by (*h*) a contralateral from the sole much livelier and of more frequent occurrence than the homolateral. That is, in Myerson's observation the contralateral often exists alone but never the homolateral. The anterior superior spine gives a contralateral adductor response as well as a homolateral, the first being generally livelier. These periosteal reflexes are best elicited from the areas mentioned.

6. **Early Stages of Tuberculosis.**—The authors venture the opinion that in tuberculosis of the lungs the earliest pathognomonic skiagraphic sign is the representation of comparatively isolated areas of vascular congestion, which increase independently of their connections with the central root. This peripheral focalization of the congestive process and its severance from the main system of vascular radiations are apt to become more and more prominent as the disease progresses and shadow-creating deposits are formed. They agree in the view that in the roentgen-ray negative of the normal chest the opaque arborizations of the "bronchial tree" are almost wholly composed of shadows cast by blood-vessels. In non-infected subjects the bronchial tree has a typical symmetry and regularity of distribution. It is very suggestive of the

shadow of a leafless tree cast by the sun on an asphalt pavement. In practically all their cases of unproved but suspected tuberculosis the skiagraphic negatives exhibited more or less extensive areas of pulmonary congestion, denoted by thicker branches and denser arborizations of the "bronchial tree." As pointed out in the text, such congestion may possibly be recognized clinically by a "ringing" quality of the bronchophony which persists under stethoscopic pressure. They believe that the recognition of abnormal congestion has great importance in the early diagnosis of pulmonary tuberculosis. Moreover, since Levy-Dorn and Cornet, Dunham and his co-workers, have independently recognized a peculiar vascularization of the lungs in association with tuberculosis, it seems probable that herein exists a specific diagnostic property of the *x*-ray plate.

Washington Medical Annals

July, XI, No. 3, pp. 135-188

8 Medicine in Lay Literature. B. M. Randolph, Washington, D. C.
9 Contagiousness of Diseases that Affect the Skin. J. C. McGuire, Washington, D. C.
10 Case of Hirschsprung's Disease (Megacolon). H. H. Kerr, Washington, D. C.

Journal of the Indiana State Medical Association, Fort Wayne

July 15, V, No. 7, pp. 291-334

11 Crisis of the Nervous System. C. E. Cottingham, Indianapolis.
12 What the General Practitioner Should Know Concerning Infection of the Kidney. D. N. Eisendrath, Chicago.
13 The Excretory Ducts of the Liver and Pancreas and Their Relation to Diseases of These Organs. M. N. Hadley, Indianapolis.
14 Safety Elements in Modern Surgery. S. J. Young, Valparaiso, Ind.
15 The Question of a Liberal Diet in Disease. D. A. Bethea, Terre Haute, Ind.
16 Bacillary Dysentery in Children; Report of an Epidemic. J. P. Simonds, Indianapolis.

Annals of Surgery, Philadelphia

July, LVI, No. 1, pp. 1-200

17 Nephrectomy. A. G. Gerster, New York.
18 *End-Results in Sixty-Three Cases of Operation for Brain Tumor. W. J. Taylor, Philadelphia.
19 Bullet Wound of Spinal Cord Between First and Second Dorsal Vertebræ; Laminectomy; Removal of Bullet; Complete Recovery. W. B. Coley, New York.
20 Treatment of Defect Occasioned by Partial Excision of Inferior Maxilla. S. Stillman, San Francisco.
21 Surgery of Thymus. C. H. Mayo, Rochester, Minn.
22 Treatment of Subclavian Aneurysm. E. Eliot, New York.
23 Drainage After Intrathoracic Operations, with Special Reference to Esophagus. W. Meyer, New York.
24 *Acute Pancreatitis with Very Extensive Fat Necrosis. L. W. Hotchkiss, New York.
25 *Acute Diverticulitis of Sigmoid Flexure of Colon. C. A. Powers, Denver.
26 *Hemorrhage Into Peritoneal Cavity Caused by Accidental Rupture of Ovary. A. Primrose, Toronto.
27 Tuberculosis of Bladder, Ureter and Kidney. A. Maclaren, St. Paul.
28 *Tomato Joint. R. W. Johnson, Baltimore.
29 *Acute Inflammation of Long Bones. R. G. Le Conte, Philadelphia.
30 *Surgery of Long Bones. J. E. Moore, Minneapolis.
31 End-Results of Fracture of Shaft of Femur. W. L. Estes, South Bethlehem, Pa.
32 *Safety in Operative Fixation of Infected Fractures of Long Bones. H. Lilienthal, New York.
33 *Intratracheal Insufflation Anesthesia (Meltzer-Auer). C. H. Peck, New York.

18. **Brain-Tumor Operations.**—The total number of cases analyzed by Taylor was sixty-three. In thirty-three the tumor could not be found at operation and a decompression gave more or less relief to the patient. In thirty cases the tumor was found and removed at operation. In fourteen of these the new growth was completely gotten away. In nine the growth was only removed in part, owing to its infiltrating character. In eight, cysts were found and drained. Six patients died within the first five days, four of these within twenty-four hours, when the skull had been opened and no tumor found. One of these died of pneumonia in five days and one of edema of the lungs in seventeen hours. Thirteen died within ten days of the operation, of those in whom a tumor was found and removed; eight of these died within thirty-six hours, and one from chloroform. One patient with cerebellar cyst died in five days, as a direct result of operation. Nineteen deaths, all told, as a direct result of operation, that is within ten days, in sixty-three cases is a very high percentage of mortality (30 per cent.).

The final or end results in all of these sixty-three cases are very bad indeed. One patient with cyst of the cerebellum is alive and well at this time, five and a half years from the date of the first operation and three years from the date of the second operation of draining the cyst. One patient with glioma of the brain is living and comparatively comfortable, three years since the first operation and eighteen months since the second operation. This patient has a recurrence of his growth and must soon go. There are three others now living, but three years have not yet passed since they were operated on.

24. Abstracted in THE JOURNAL, July 20, p. 217.

25 and 26. Abstracted in THE JOURNAL, July 27, p. 300.

28. **Tomato Joint.**—Frequently, especially in the autumn, Johnson says, physicians are called to see cases of joint involvement that have all the earmarks of surgical trouble. As in the life history of hip-joint disease, there has been a fall, a twist, or bruise at some time or other, so with this joint affection and with the pertinacity of those who use psychic analysis for "psychic trauma" one can generally bring out by careful and positive (possibly leading) questioning a history of sprain or strain about the time of joint discomfort. If the knee, a favorite joint, be involved, it is enlarged, swollen, tense, or with marked effusion but not red, painful especially on motion but the pain of rather a subacute condition, with slight increase of local heat. The floating patella can be made to strike the condyles and occasionally the joint is caught in extension and with difficulty flexed, due to the displacement of its constituents by the effused fluid. The urine is hyperacid with marked evidence of urates in the brick-dust deposit, nor are the other signs of uric acid diathesis, as we used to call it, absent-depression, acid, dyspepsia, occasionally pruritus, and even eczema. Nor is the pain limited to joints alone, for it simulates intercostal neuralgia, gall-stone, podalgia, or severe pain in the fibrous tissue about the os calcis. The cause of all this trouble, Johnson says, is eating tomatoes. In nine cases out of ten on taking the history of the patient, or treating obscure indefinable aches, the tomato is the basis for the acid condition.

29, 30 and 32. Abstracted in THE JOURNAL, July 27, p. 301.

33. **Intratracheal Insufflation Anesthesia.**—As the result of his observation in 216 cases Peck regards insufflation anesthesia as safe if certain cardinal principles are observed in its administration, i. e., one must guard against over-pressure, spraying of liquid either through tube, introduction of tube into esophagus, introduction of tube beyond bifurcation of trachea and trauma to pharynx or larynx in intubation. A proper apparatus and ordinary caution should absolutely prevent the accidents which have been responsible for the few reported deaths from the method. The uniformly sufficient aëration of the lungs, with the even administration of well-diluted ether vapor, relieves the respiratory apparatus and central nervous system of much strain, and overetherization is impossible. The prevention of the inhalation of blood, mucus or vomitus, especially in operations about the mouth and pharynx, is an important feature in preventing inhalation pneumonia or bronchitis, and in making such operations easier and more rapid.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

June, XV, No. 6, pp. 321-384

34 Relation of Diseases of the Upper Respiratory Tract and General Systematic Conditions. D. B. Kyle, Philadelphia.
35 Treatment of Psoriasis. A. Bernheim, Philadelphia.
36 Mental and Physical Peculiarities of the Hindoo Ascetic. F. S. Mason, New York.
37 Case in Which Epilepsy in Adult Life Developed After the Over-Use of Thyroid Extract. M. K. Myers, Philadelphia.
38 Amputation of the Thigh for Gangrene. J. H. Branth, New York.

Journal of Infectious Diseases, Chicago

July, II, No. 1, pp. 1-139

39 Bacteriologic and Sanitary Condition of Milk-Supply of New York City. M. C. Schroeder, New York.
40 Rockford (Ill.) Typhoid Epidemic. E. O. Jordan and E. E. Irons, Rockford, Ill.
41 *Diphtheria Bacilli, with Special Reference to Complement-Fixation Reactions. J. A. Kolmer, Philadelphia.
42 Contribution to Bacteriology of Diphtheria. J. A. Kolmer, Philadelphia.
43 Method of Obtaining Cultures from Duodenum of Infants. A. F. Hess, New York.
44 *Cutaneous Allergy in Gonococcal Infections. E. E. Irons, Chicago.

45 Toxic Substances Obtainable from Pneumococci. E. C. Rosenow, Chicago.
46 Endo's Medium, with Observations on Differentiation of Bacilli of Paratyphoid Group. E. R. Harding and Z. Ostenberg, San Francisco.

41. **Diphtheria Bacilli.**—Complement-fixation reactions with homologous antigens and immune serums of different types of diphtheria bacilli from a variety of clinical conditions, including a true Hofmann's bacillus, observed by Kolmer, tended to show that these organisms are all related. The true Hofmann's bacillus, he believes, is probably an example of "mutation" and is able to transmit its new qualities from generation to generation. There is no relation between the occurrence or degree of complement-fixation and antitoxic strength of diphtheria immune sera. It seems that complement is fixed by a "body" separate from the true immune body representing the antitoxic content of sera.

44. **Cutaneous Allergy in Gonococcal Infections.**—Irons found that the cutaneous inoculation of glycerin extracts of autolyzed gonococci in patients infected by the gonococcus produces a well defined reaction. This reaction is not usually obtained in normal persons, nor in those suffering from other infectious diseases. In persons recently infected, the reaction is negative and increases gradually during the course of the disease. In the more chronic forms of gonococcal infection, such as arthritis, the degree of the cutaneous reactivity varies from day to day, and these variations may be correlated with the changes in the clinical course of the disease. Cases of severe infection, such as extensive arthritis, may give negative reactions. Later, when improvement has occurred, the reaction becomes positive. In general, a positive reaction is obtained in patients with gonococcal infection at some time during the course of the disease. In normal persons the gonococcin prepared in the manner described gives a cutaneous reaction rarely more than 2 to 3 mm. in diameter. Occasionally in adults and somewhat more frequently in children fairly marked reactions are met with where previous gonococcal infection can be excluded. In these cases the normal antibodies may be increased to an unusual degree. It is possible that normal individuals may be found who will give reactions to antigens prepared from many pathogenic organisms. The possibility must also be borne in mind that infection by one organism may give rise to an increase in the proteolytic power of the serum for other organisms. The cutaneous reactions obtained with meningococcal and gonococcal antigens suggest that we are dealing with a group reaction. In diagnosis, a positive reaction is to be regarded as confirmatory evidence of gonococcal infection. Other infections, such as those by the meningococcus or *M. catarrhalis*, which may give rise to a group reaction, must be excluded. The clinical value of the reaction must be determined by further tests and its limitations defined by a study of many groups of cases.

Western Medical Review, Omaha

July, XVII, No. 7, pp. 357-408

47 Preventable Insanity. W. B. Kern, Hastings.

Northwest Medicine, Seattle, Wash.

July, IV, No. 7, pp. 197-226

48 Education of Public Regarding Cancer. A. A. Matthews, Spokane, Wash.
49 Present Status of Salvarsan. G. S. Peterkin, Seattle, Wash.
50 Expert Testimony. J. A. Kellogg, Bellingham, Wash.
51 Systemic Diseases Arising from Errors of Refraction. D. H. Lewis, Salt Lake City, Utah.
52 Foreign Bodies in Orbit. L. W. Snow, Salt Lake City, Utah.
53 General Rest in Tuberculous Joint Disease. J. C. Schapps, Butte, Mont.
54 Primary Malignancy of Tonsil. C. G. French, Portland, Ore.
55 Impressions of Some Surgical Clinics of Europe and America. R. C. Coffey, Portland, Ore.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

July, LXVI, No. 415, pp. 1-168

56 *Use of Fetal Serum to Cause Onset of Labor. A. J. Rongy, New York.
57 Modern Methods in Cesarean Section. A. B. Davis, New York.
58 Indications for Abdominal Cesarean Section with Technic of Operation and Analysis of 352 Cases. R. McPherson, New York.
59 *Menstruation Without Ovaries. P. Findley, Omaha.
60 *Eclampsia Complicating Delivery of Monstrosity. L. J. Ladinski and I. Seff, New York.
61 Some Seventeenth Century Obstetricians and Their Books. W. H. Allport, Chicago.
62 Umbilical Clamp. B. B. Wechsler, Pittsburgh.
63 Diagnosis of Fractures About Elbow-Joint in Children. J. G. Williams, Brooklyn.
64 Case of Acute Dilatation of Stomach Complicating Pneumonia in Child. L. Louria, Brooklyn.

56. **Use of Fetal Serum.**—Rongy carried out Heide's experiments on nineteen pregnant women. Heide's serum was used in six patients, one or more injections induced labor pains which led to the expulsion of the child. These patients were at least from ten to eighteen days before term. Two women were admitted to the hospital at term but there were no signs of labor. Both were injected after they were observed for a few hours to ascertain if they had pain; in both, uterine contractions not painful were observed after the first injection. Rongy noted during his investigations that uterine contractions, however strong they may be, do not cause pain. The patient begins to suffer pain when the presenting part or the water bag commences to press on the cervix or the neighboring structures in the pelvis. He observed strong uterine contractions taking place, and the patient was not aware of it. He feels justified in concluding from his observations that uterine contractions by themselves are not painful. On close questioning of the patient during many uterine contractions as to whether she suffered from any discomfort, the answer was usually in the negative. In inertia he found the serum to be effectual. Seven of the experiments proved negative. No reaction, as a rule, took place. Rongy found that the most frequent symptoms after the first injection were chills lasting from two to thirty minutes, nausea and vomiting. Precordial pain or oppression was present in four cases. In nearly all of these cases very little reaction took place. Two women had uterine contractions and pains, but were transient in character and subsided quickly. The other five women had no reaction whatsoever except for a slight nausea. Rongy says that since it has been demonstrated that fetal serum will cause the onset of labor, further investigations must be made to ascertain the actual origin of these substances.

59. Abstracted in THE JOURNAL, July 6, p. 57.

60. **Eclampsia Complicating Delivery of Monstrosity.**—In addition to the fact of pregnancy occurring after plastic surgery on the adnexa, the authors claim that this case presents the interesting question as to whether or not the previous operations on the tubes and ovaries had any bearing on the abnormal development of the fetus and whether the latter was a causative factor in the eclampsia, especially as the patient failed to show any affection of the kidneys, or any other organ, previously.

Denver Medical Times and Utah Medical Journal

July, XXXII, No. 1, pp. 1-46

65 Xeroderma Pigmentosum. W. H. Davis, Denver.
66 A Few Nerve Conditions Based on London Clinics. R. H. Finney, Pueblo, Colo.
67 Need of a Clinical and Pathological Department at Insane Institutions. H. G. Maul, Denver.
68 Rhus Toxicodendron. H. H. Redfield, Chicago.
69 Pictures from the Philippines. J. M. Brown, Surigao, Mind.
70 Latitudes. E. S. Goodhue, Hawaii.
71 Adulterated Air. J. N. Hurty, Indianapolis.
72 Requisites for Confinement Cases. M. J. Krohn, Denver.

Yale Medical Journal, New Haven, Conn.

April, XVIII, No. 8, pp. 325-356

73 Medical Report of Yale Peruvian Expedition. W. G. Erving, Washington, D. C.
74 *Medical Treatment of Acute Gastric and Duodenal Ulcer. H. F. Stall, Hartford, Conn.
75 Roentgenoscopy as Applied to Diseases of Thorax and Abdomen. A. C. Heublein, Hartford, Conn.

74. **Acute Gastric and Duodenal Ulcers.**—Stall is of the opinion that erosions of the gastric mucosa occur much more frequently than is at present generally believed. He says that fewer diagnoses of "dyspepsia" and "chronic gastritis" should be made and more of acute peptic ulcer. Symptoms of hyperchlorhydria that are not promptly relieved by diet and alkaline treatment signify pyloric ulcer or chronic appendicitis. When the former, the patient should be put on a strict ulcer regimen and not be allowed to continue at his work, munching soda mints, while his chances for a medical cure slip from him as his ulcer becomes hard, indurated and possibly malignant. The failure to obtain a cure in gastric or duodenal ulcer of a few weeks' or months' duration by medical treatment usually

means a failure in the management. He cites one case, a man of thirty-five, who has been in excellent health, except for stomach trouble of two years' duration. This was chiefly manifest by pain in the stomach, usually most marked in the mid-afternoon and in the early morning hours. Food did not relieve it. There was no vomiting, but occasional sour regurgitation. Pain has recently become worse and now recurs each night. Three physicians had been consulted, one giving pills, another a powder. The patient stated he was on a "diet;" inquiry developed he was not allowed any fried food. He now has a hard, indurated ulcer which cannot be affected by any medical treatment.

Journal of the Medical Association of Georgia, Augusta

July, II, No. 3, pp. 65-96

76 Conservative Treatment of Gunshot Wounds of the Extremities. C. L. Ridley, Hillsboro.
77 Typhoid Vaccine. J. W. Palmer, Alley.
78 Intestinal Sand. N. M. Moore, Augusta.
79 Flotsam and Jetsam from a Medical Standpoint. B. P. Oliveros, Savannah.
80 Ligation of the Thyroid Vessels in Exophthalmic Goiter. W. S. Goldsmith, Atlanta.
81 Goiter, with Special Reference to Surgical Treatment. E. G. Jones, Atlanta.

Journal of Nervous and Mental Disease, Lancaster

July, XXXIX, No. 7, pp. 433-502

82 New Era in Neurology. W. N. Bullard, Boston.
83 Alzheimer's Disease. S. C. Fuller, Westborough, Mass.
84 *Angioneurotic Edema Cured by Salvarsan. C. W. Burr, Philadelphia.

84. Angioneurotic Edema Cured by Salvarsan.—While arsenic is a recognized treatment for angioneurotic edema, in Burr's case, given by mouth, it did no good. The Wassermann and Noguchi tests were positive. The ordinary treatment for angioneurotic edema did no good. The attacks of local edema were as frequent when not taking as when taking mercury and the drug whether given by inunction or by mouth did not help his head pain nor decrease the size of a periosteal swelling in the head or tibia. Finally he was given an intravenous injection of salvarsan. That night he slept well and without morphia. Within a week all head pain ceased, but it recurred, though only for about a week, and in not severe degree. He was given a second injection and has had no head pain since. The periosteal swelling on head and tibia began to decrease a few days after the first injection and now is practically all gone. He has had no edema anywhere since the first injection.

Texas State Journal of Medicine, Fort Worth

July, VIII, No. 3, pp. 77-106

85 Tuberculous Cow. R. F. Eagle, Fort Worth.
86 Pellagra in Texas. K. H. Beall, Fort Worth.
87 Pellagra. M. M. Smith, Dallas, Tex.
88 Dissemination of Hygienic and Sanitary Knowledge by the Medical Profession. A. S. Garrett, Springtown, Tex.
89 An Interesting Case of Cerebrospinal Meningitis. W. Allison, Fort Worth.

Journal of Cutaneous Diseases, New York

July, XXX, No. 7, pp. 389-460

90 *Critical Study of the Organisms Cultivated from the Lesions of Human Leprosy, with a Consideration of Their Etiologic Significance. C. W. Duval and C. Wells, New Orleans.
91 *Diagnostic Value of the Noguchi Luetin Reaction in Dermatology. D. O. Robinson, New York.
92 Salvarsan. E. L. Keyes, Jr., New York.
93 Id. F. E. Gardner. Continued.

90. Study of Leprosy.—From a bacteriologic study of twenty-nine cases of leprosy the authors have cultivated an acid-fast bacillus from twenty-two. A chromogenic strain similar in all essentials to that described by Clegg was recovered in fourteen cases, which under certain conditions grows as (a) non-acid-fast streptothrix, (b) non-acid-fast diphtheroid and (c), an acid-fast bacillus. Eight cases yielded an organism which thus far is distinctly different from Clegg's bacillus in its biologic character, growing only on a special medium and not producing pigment. Animal experiments undertaken for the purpose of differentiating the two types recovered from the human leprous lesion and to fix their etiologic status are not regarded as conclusive. Serologic tests, especially those performed with highly immune serums, suggest that the bacillus of Clegg is not related to Duval's non-chromogenic, slow-growing culture of leprosy. The rôle played by the chromogenic bacillus of Clegg in the production of leprosy is as yet an unsettled question. The non-chromogenic strain, while behaving according to most notions of a pathogenic organism, has likewise not up to the present been proved to be the cause of leprosy, although the authors are impressed with the probability of such a rôle being eventually attributed to it, and consider that it deserves more serious attention than any strain so far cultivated from the human leprous lesion. The wide variation in morphology and staining reaction for certain cultures which subsequently become rapid growers and chromogenic, explains the interpretations of European writers that *Bacillus leprœ* is a bacterium of such pleomorphism that it can be recognized as a diphtheroid, a streptothrix and an acid-fast bacillus.

91. Diagnostic Value of the Noguchi Luetin Reaction in Dermatology.—Observations were made on 183 cases, including sixty-nine cases of various stages of syphilis by Robinson, 108 control cases and six cases in which syphilis was previously overlooked but discovered after the tests were made. He is convinced that the luetin reaction is specific for syphilis and affords a means of diagnosis in certain cases. It was absent in his primary and secondary untreated cases. It was present in all cases of tertiary, latent and late hereditary syphilis. In secondary treated cases the reaction may be positive. The luetin was more constant in tertiary, latent and late hereditary syphilis than the Wassermann reaction.

Journal of the Medical Society of New Jersey, Orange

July, IX, No. 2, pp. 55-108

94 Problems Confronting the Medical Society of New Jersey. D. Strock, Camden, N. J.
95 Evolution of Abdominal Surgery with Recommendations as to Technic. F. D. Gray, Jersey City, N. J.
96 Surgical Diseases of the Kidneys. J. F. Hagerty, Newark, N. J.
97 Local Societies of the Past. W. S. Disbrow, Newark, N. J.
98 Some Essentials to Be Remembered in the Treatment of Bites of Dogs, Cats and Other Animals. H. A. Tarbell, Newark, N. J.

Medical Record, New York

July 27, LXXXII, No. 4, pp. 139-184

99 External Use of Water for Enhancing Resistance in Tuberculosis. S. Baruch, New York.
100 *Treatment of Habits. C. E. Atwood, New York.
101 Preliminary Report on Neosalvarsan, with Particular Reference to Its Employment as Intramuscular Injection. A. L. Wolbarst, New York.
102 Bedbugs and Bubonic Plague. J. C. Manning, Brooklyn.
103 Error of College Criticism. O. L. Mulot, Brooklyn.
104 *Abdominal Tumors of Tuberculous Origin. A. C. Wiener, Chicago.
105 Sunstroke and Heat Prostration. I. Bram, Philadelphia.

100. Treatment of Habits.—An undesirable habit cannot be inhibited any more than an undesirable disposition, says Atwood, but if a patient can be induced voluntarily to substitute desirable responses for the undesirable, a new habit may become automatic after a sufficient number of repetitions. A voluntary surrender of the will, however, is not only highly desirable, but apparently absolutely necessary in order to gain the ascendency. The tendency is ever to fall back to the old adjustment. The old sensorimotor paths are open and a very few impulses only are needed to make them as permeable as ever. In the presence of actual nervous or mental complications, Atwood cautions not to meddle except under the intelligent direction of some one who thoroughly understands the nervous system.

104. Abdominal Tumors of Tuberculous Origin.—Tuberculous toxemia, as well as the tubercle bacillus itself, are regarded by Wiener as being factors in the etiology of clinically malignant tumors. He reports two cases. In both these cases the primary tuberculous focus could not be found. In both the clinical diagnosis was malignant growth. In the first case a diagnosis was made of retracted gall-bladder with infection and adhesions to the duodenum or transverse colon, with a possible carcinomatous degeneration of the gall-bladder. The liver was found to be enlarged, of a light yellow color like that in phosphorus poisoning, and studded with innumerable tumors of a gray color, the largest not larger than a pea. Peritoneum normal, smooth, and glossy. Gall-bladder normal, no adhesions. The patient's condition prohibited exploration of the abdominal cavity for primary carcinoma and the abdominal cavity had to be hurriedly closed. A week after the operation 0.0005 of tuberculin T. R. was injected in the arm. A typical local reaction with rise of temperature,

nausea and general prostration followed. This result encouraged Wiener to continue treatment with tuberculin for six months, at intervals of six days to two weeks, with the result that the patient now regards herself as well and able to work. Although the liver has not perceptibly decreased in size, the pains are gone.

In the second case the rise of temperature, the history, which showed a longer duration than could be the case in malignant growths, suggested the possibility of a tumor of inflammatory origin in the right inguinal region. Injection of tuberculin T. R., 0.0001 was followed by a typical local reaction and increased pain in the abdomen. There were further injections with the typical local reaction. One day there came with the stools a large amount of glassy mucus and shreds of mucous membrane. Later large tubular pieces of mucous membrane were expelled on several occasions, preceded by slight colicky pains on the right side. Simultaneously the tumor decreased in size and gradually Wiener was able to differentiate the intestine from the underlying tumor. The wall of the intestine, which felt like a rigid tube, gradually became more pliable and less sensitive to the touch. It could be felt that the part of the tumor which extended over to the rim of the os ilium was in reality an interstitial inflammation of the iliopsoas muscle, for gradually more fibers of the muscle could be felt to emerge from the tumorous mass. About eight months after the first injection the patient was doing well.

New York Medical Journal

July 27, XCVI, No. 4, pp. 157-204

106 Tissue Density Factor. H. Wakefield, New York.
107 Newer Teachings of Diseases of Alimentary Canal. M. I. Knapp, New York.
108 Insanity and Heredity. J. B. Macdonald, Concord, N. H.
109 Ten Sex Talks to Girls. I. D. Steinhardt, New York.
110 Mercuric Salicylate Intramuscular Injections in Syphilis. J. L. Wollheim, New York.
111 Corporation of Barber Surgeons in England and Holbein's Painting. C. G. Cumston, Boston.
112 Tincture of Iodin the Best Surgical Disinfectant. F. T. Woodbury, Fort Screven, Ga.
113 Physician as Investor. D. Fenwick, New York.
114 Neuralgia of Testicle Caused by Adhesions. E. G. Ballenger and O. F. Elder, Atlanta, Ga.

Boston Medical and Surgical Journal

July 25, CLXVII, No. 4, pp. 109-144

115 *Bacterial Invasion of Blood and Cerebrospinal Fluid by Way of Lymph-Nodes; Findings in Bronchial and Retroperitoneal Lymph-Nodes. E. E. Southard and M. M. Canavan, Boston.
116 *Immigration and Midwife Problem. I. S. Wile, New York.
117 Efficiency of Operative Population of Textile City as Viewed from Surgical Standpoint. M. B. Swift, Fall River, Mass.
118 Institutional Dentistry; Methods; Results. F. A. Keyes, Boston.
119 Massachusetts Reformatory Method of Differentiating Defective Delinquents. G. G. Fernald, Concord, Mass.

115. Bacterial Invasion of Blood and Cerebrospinal Fluid by Way of Lymph-Nodes.—Following the same technic adopted by Gay and Southard in their study of the post-mortem bacteriology of the blood and cerebrospinal fluid (100 cases) and that of Southard and Canavan in their study of the blood, cerebrospinal fluid and mesenteric lymph-nodes (fifty cases), the authors have studied the post-mortem bacteriology of fifty additional cases, replacing mesenteric by bronchial lymph-nodes, and thirty cases adding retroperitoneal lymph-nodes. The conclusion of two former papers is further established, viz., that post-mortem cultures from the cerebrospinal fluid are more likely to yield growths than cultures from the blood. Just as the cerebrospinal fluid proved more frequently positive than did the mesenteric lymph-nodes, so, too, the fluid remains more frequently positive than the bronchial lymph-nodes (*nota bene*, the difficulty of taking cultures from the usually small available amount of lymph-node material); retroperitoneal lymph-nodes, however, are found more frequently invaded than either blood or cerebrospinal fluid in our series. The 84 per cent. positive retroperitoneal nodes (1912) are only exceeded by the 85 per cent. positive cerebrospinal fluid series of Southard and Canavan (1910). Both bronchial and retroperitoneal lymph-nodes exceed the blood in frequency of positive cultures; the excess is, however, slight.

The most frequent two-out-of-three-positive combination, found in 1910, was the combination of positive cerebrospinal fluid and positive mesenteric lymph-node. This led to the hypothesis of a lymphogenous blood-borne invasion of organisms lodging in the meninges and later killed out in the blood by bacteriolytic substances. This condition is reversed in the present series, in which the combination of positive cerebrospinal fluid and positive bronchial lymph-node is very rare.

The retroperitoneal nodes are on a different footing from the bronchial nodes in that they more frequently contain organisms (84 per cent. vs. 64 per cent.). The combination of positive retroperitoneal node and positive cerebrospinal fluid is the most frequent two-out-of-three-combination (recalling in this respect the mesenteric series). Positive growths from all three loci were found in (a) mesenteric node combination, 55 per cent.; (b) retroperitoneal node combination, 52 per cent.; (c) bronchial node combination, 35 per cent.

Tables are presented showing the main types of organism cultivated. Special remark is made of a protracted period in which an anthrax-like organism kept appearing in certain autopsies.

116. Immigration and Midwife Problem.—In order to appreciate the relation of immigration to midwifery, Wile says it is necessary to ascertain how many midwives are admitted to this country. In order to protect the country from the unscrupulous midwife, it is essential that a system of education, supervision and control be established throughout the various states of the Union. Only by education, standardizing, legislating and controlling the immigrant midwife will it be possible to prevent an increase of the dangers now attributed to midwifery as it at present exists among constantly increasing immigrant population. The increase in midwives depends on the increase of female immigration. Wile urges that the standards of midwifery in this country be raised at least to the standards existent in the countries from which the immigrant midwife comes. By the further control of immigration and the securing of information relating to the educational, professional and legal status of midwives, it will be possible to place the midwife problem in an intelligent manner before the American public.

American Journal of Gastro-Enterology, Philadelphia

July, II, No. 1, pp. 1-48

120 Mobile-Dilated Cecum; Diagnosis and Treatment; Case Reports. G. R. Satterlee, New York.
121 Nutrient Feeding per Rectum by the Drop Method. H. M. Eberhard, Philadelphia.
122 Bad-Breath Signal; What It Portends. G. M. Niles, Atlanta, Ga.
123 Abdominal Surprises. W. Freile, Jersey City.
124 Surgical Measures for the Relief of Abdominal Symptoms Due to Ptosis of the Stomach and Colon. J. C. Bloodgood, Baltimore.
125 Relation of Laboratory Findings to Gastro-Intestinal Disease. E. J. Asnis, Philadelphia.
126 Diseases of the Stomach and Intestines. L. Brinton, Philadelphia.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

July 13, No. 2689, pp. 53-104

1 *The State, the Poor and Our Profession. G. E. Haslip.
2 Modern Social Changes and Legislation as They Affect the Medical Profession. E. N. Nason.
3 A Plea for Harrogate and Other English Health Resorts. C. Gibson.
4 *Parotitis Associated with Glycosuria and Acidosis. L. M. Routh.
5 *Electrocardiography and Its Importance in the Clinical Examination of Heart Affections. T. Lewis.
6 Subperiosteal Hematoma. P. C. Cole.

1. The State, the Poor and Our Profession.—From the insidious manner in which the state is slowly and surely taking into its charge various classes of patients, with the monopoly of the care of many diseases, Haslip says it must follow that in the future Great Britain shall have three different classes of hospitals: 1. The state-rated hospitals would be the hospitals to receive causal cases of urgency accidents, etc., and the severe cases sent by the district medical officer. They would be used by the teaching medical schools for students, and the increased clinical field opened by the larger

number of cases would be advantageous for instruction. They would have the same kind of staff as the present voluntary hospitals, but it would be considerably increased or diminished according to the necessity of each institution. They would be under the management of either the County Council or the Local Government Board, with an advisory medical board, but every member of the staff and visiting staff would receive remuneration for his services. 2. State Insurance Hospitals. They would be under the management of the local insurance medical committees, and the cases would be attended by the medical attendants to the insured patient. 3. Paying Hospitals for Various Classes of Patients. This will be the true charitable institution of the future, and will still require the energies of those good hospital workers who have done so much in the past and for whom greater work will be open in the future. And if it is the duty of the state to do all this for the individual, then, Haslip maintains it is the duty of the individual to do something for the state. If the state makes the individual healthy and strong to maintain his vitality, then it is the duty of the individual to give some portion of his health and strength to maintain the vitality of the state, and the individual must be trained and taught in such a manner that he is able to assist the state. By this he will show discipline and unselfishness.

4. **Parotitis Associated with Glycosuria and Acidosis.**—Routh asks: Did the parotid inflammation cause some auto-intoxication with secondary effect on the metabolism of the pancreas as a cause of the glycosuria? There is, of course, some functional correlation between the parotid gland and pancreas, in that they both secrete a juice materially aiding in the digestive processes. Or is it that the parotid and submaxillary also secrete some internal secretion, the temporary disorganization of which may cause glycosuria? The fact that the left parotid and submaxillary glands were not involved, and that their internal secretions were therefore intact, would perhaps favor the former view.

5. **Electrocardiography and Its Importance in the Clinical Examination of Heart Affections.**—Galvanometric examination of the heart is regarded by Lewis as being important from many points of view. It may give indications of enlargement of the walls of one or other cardiac chamber; it may accurately locate small lesions in the musculature. It informs us when the heart-beat starts at the normal impulse center or away from it; in the last named condition it tells us that the rhythm is no longer under the normal nervous control—a fact which is of fundamental importance in the management of our case, it tells us within certain limits where new beats have their origin. It gives us a separate record of contraction in auricle and in ventricle, and accurately defines the time relation of contraction in one chamber and the other; thereby it frequently elucidates physical signs which otherwise remain obscure. It provides us with a perfect means of ascertaining the functional efficiency of the auriculo-ventricular bundle, the sole conducting tract on which the ventricle depends for the reception of impulses which start its contractions. It allows us to differentiate between separate forms of slow and rapid heart action, which are of totally different significance. It provides us with an analysis of every form of cardiac irregularity an analysis which is unrivaled in its precision by any other method. While the information derived from it relates essentially to the condition of the muscle, the method is often helpful in the diagnosis of lesions of the valves. It brings us into nearer contact with the functions of the heart muscle than does any other clinical method; it is a precise means of studying the heart as a living and moving organ. The information obtained by electrocardiography is not, as commonly thought of purely scientific interest in the analysis of discovered heart action. It has a great and growing value in the practical management of patients. There are a few heart cases in which our knowledge is not added to by its employment, and in a steadily increasing percentage facts which are essential if sound prognosis and treatment are to be attempted are elicited. The time is at hand, if it has not already come, when an examination of the heart is incomplete if this new method is neglected.

Lancet, London

July 19, CLXXXIII, No. 4637, pp. 67-134

7 Acute Duodenal Perforation. D'A. Power.
8 *High Blood-Pressure and the Commoner Affections of Arteries. H. French.
9 *Case of Tubal Pregnancy. R. L. Knaggs and W. W. Walker.
10 *Treatment of Chronic Ulcer of the Stomach and Duodenum by Gastrojejunostomy. J. Sherren.
11 Use of Celluloid Splints in the Treatment of Cases of Poliomyelitis. F. E. Batten.
12 Neosalvarsan. J. McIntosh, P. Fildes and H. B. Parker.
13 Observations on the Neuron. H. Campbell.

8. **High Blood-Pressure and the Commoner Affections of Arteries.**—French is certain that the pressure can only be reduced safely when the muscle of the arterial coats is still muscle, though it may be out of training and stiff. So long as it is muscle it may be rendered lissom again by arterial gymnastics, and so brought back under the control of the vasomotor system, to the great relief of the heart. When, however, the tunica media of most of the arteries, particularly those of the splanchnic area, is fibrous and no longer muscle, a high blood-pressure becomes a necessity if the patient is not to be permanently invalided. If, French says, one relies solely on the "toxic" and the "increased peripheral resistance" theories of arteriosclerosis and high blood-pressure, one may often treat the patient on the wrong lines; the correct lines of treatment being, he says, (1) prevention by moderation in eating and drinking, a due alternation of brain work with physical exertion daily; not too long sustained a sameness of arterial caliber, whether in the limbs, the splanchnic area, or the brain. (2) Relief in the earlier stages, by carefully considered steps that may be classed together under the heading of "arterial gymnastics." (3) Recognition of the fact that when the stiffening stage has passed and fibrosis is already established a high blood-pressure is to a greater or less extent a necessity; that it has to be maintained by the heart; that it could be lessened by lessening the work of the heart, as by invaliding the patient or putting him to bed; but that if the patient is to continue life in anything like its full activity the heart must be enabled to maintain a high blood-pressure, for which purpose iodids, nitrites, etc., are relatively useless; cardiac "training" by regulated massage, exercises being far more important, and the chief drugs to rely on when the heart symptoms are well developed being those which increase the force of the heart-beat, especially full doses of tincture of digitalis.

9. **Tubal Pregnancy.**—One of the most striking features of this case is the association of tubal pregnancy of unusual character with a uterine pregnancy of a later date. The development of the intra-uterine pregnancy followed closely on the onset of degenerative changes in the tubal fetus, and the nature of the case was made clear at an early stage in consequence of an enforced abdominal exploration. It was evident, even from a cursory examination of the specimen, that the pregnancy had reached the highest point of its development without rupture of the tube. The last stage of the tubal pregnancy in this case was also unusual. A lithopedion is rarely completely intratubal, but more commonly is contained in a sac which is formed by peritoneal adhesions and false membrane. In this sac it may lie harmless for years. But where suppuration occurs the pus may open in various directions and the fetal bones be discharged through the skin, the bowel, the bladder, or the vagina. The peritonitis is local and limiting. In this case a small perforation resulted evidently from ulceration of a sharp edge of bone and a general peritonitis of a not very virulent type resulted from the flooding of the general peritoneal cavity with escaping adipocere.

10. **Treatment of Chronic Ulcer of the Stomach and Duodenum by Gastrojejunostomy.**—Up to the end of March, 1912, Sherren operated on eighty-two patients with chronic duodenal ulcer; among these were two deaths, both from bronchopneumonia, one in a male, aged 59, ten days, the other in a male, aged 63, thirty-six hours after operation. The first was a large man, the second a thin, wasted patient, with a very dilated stomach, who had had symptoms for over thirty years. Up to March 1912, he performed gastrojejunostomy for

chronic ulcer of the stomach on 109 patients. In one of these that died, a woman on whom he operated when she was almost *in extremis* for hour-glass stomach, leakage occurred on the twelfth day. At the post-mortem examination there was no attempt at union. Two other deaths occurred.

No case of gastrojejunal ulceration has occurred, but two of jejunal ulcer, both after posterior no-loop gastrojejunostomy, one six months after operation for chronic duodenal ulcer, the other three months after operation for chronic gastric ulcer. Both were successfully excised. In neither had the appendix been removed at the first operation. One other patient developed regurgitant vomiting and was successfully treated by lateral anastomosis. Sherren is at the present time directly treating the ulcer in addition in most cases. When possible duodenal ulcers are invaginated and gastric ulcers treated in the same way, or, if at all suspicious, excised. He has so far excised fifteen; serial sections have been cut of them all, but no trace of malignant change has been discovered. The appendix is always removed if the condition of the patient permits, and the gall-bladder is examined. In four of the cases of duodenal ulcer French had to remove gall-stones at the same time; one patient died after this operation had been performed elsewhere five years later. Two of the cases of chronic gastric ulcer were complicated by gall-stone. All septic teeth are dealt with before operation and all the patients warned to be careful in their diet for the three months following operation, and instructed to take an alkaline powder between meals for the same time. Sherren says that operation in unselected cases of gastric and duodenal ulcer can be carried out with a death-rate of less than 3 per cent., and carries with it relief in certainly 96 per cent. of the cases, and the probability of cure in over 80 per cent.

Medical Press and Circular, London

June 19, XCIII, No. 3815, pp. 663-658

14 Avoidance of After-Effects from Anesthesia. J. Blumfeld.
15 Treatment of Syphilis. D. Power.
16 *Certain Reactions of Blood in Carcinoma (and Other Conditions), with Suggestions on Treatment. J. A. Shaw-Mackenzie.
17 Meningitis Due to Bacillus Typhosus. J. F. O'Carroll and F. C. Purser.

June 26, XCIII, No. 3816, pp. 659-686

18 Appendicitis in Children. H. A. T. Fairbank.
19 Salvarsan in Treatment of Anthrax. A. S. Gubb.
20 Vaccine Therapy. S. J. Ross.
21 Pancreatitis, Acute and Chronic, and Its Surgical Treatment. W. S. Handley.

July 3, XCIV, No. 3817, pp. 1-24

22 Decancerization. J. G. de Gers.
23 Place of *x*-Ray in Modern Diagnostic Methods. W. Steuart.
24 Case of Intussusception in an Infant; Resection and Recovery. H. F. Woolfenden.
25 Puerperal Fever. J. F. Jordan.

July 10, XCIV, No. 3818, pp. 25-48

26 *Treatment of Dyspepsia. W. H. Wilcox.
27 Erythema Nodosum and Tuberculous Meningitis. A. Sezary.
28 Extra-Uterine Pregnancy, with Special Reference to Its Diagnosis After Rupture or Abortion. J. N. Stark.

16. Certain Reactions of the Blood in Carcinoma, with Suggestions on Treatment.—Shaw-Mackenzie believes that it has been proved that the serum of the blood taken from cases of carcinoma manifests two important properties: (1) an increased antitryptic value; (2) a power to accelerate the action of pancreatic lipase which is far in excess of what is found in normal serum. These two reactions when present together furnish a valuable aid in the diagnosis of malignant disease and their absence excludes the diagnosis of cancer. After recovery or improvement, or during a period of quiescence, the accelerating power of the serum on lipase remains high, or may be even higher than when the disease is manifest. But under the same conditions the antitryptic value falls to normal. Such reactions serve, therefore, to control treatment and to indicate progress toward recovery or otherwise. The lipoclastic acceleration is a possible and natural factor in resistance to disease, in carcinoma and in other conditions. If this suggestion is admitted, serum and substances which increase this action or protective mechanism are indicated in treatment. Already, although the cases in mice and men are too few to yield decisive results, Shaw-Mackenzie has observed a beneficial influence on malignant disease treated on these lines.

26. Treatment of Dyspepsia.—The following lines of treatment are given by Wilcox: The gastric crises of tabes or angioneurotic edema require treatment by local applications, such as warmth, sinapism, etc. Food by the mouth should be withheld. Acetphenetidin may be given for two or three doses, or a dose of some powerful carminative mixture may be given—e. g.:

℞

	Gm. or c.c.		
Tincturæ cardamomi compositus	6		ʒjss
Tincturæ zingiberis	2		ʒss
Tincturæ capsici		66	♏x
Spiritus ætheris	2	or	ʒss
Spiritus chloroformi	1		♏xv
Aquæ menthæ piperitæ, ad	30		ʒj

Every two hours.

If the pain continues morphia must be given hypodermically—e. g., 1/5 grain, repeated if necessary. In chlorosis, dyspepsia is an almost constant symptom. It must be remembered that chlorosis is usually associated with hyperchlorhydria; therefore, alkalies with the bland preparations of iron are indicated—e. g.:

℞

	Gm. or c.c.		
Sodii bicarbonatis	1	33	gr. xx
Ferri ammoniæ citratis		33	gr. v
Spiritus chloroformi		66 or	♏x
Infusi aurantii	30		ʒj

T.d.s.

To this may be added, liquor arsenicalis, 3 m.

Nourishing, easily digestible diet—e. g., milk, fish, eggs, chicken, etc.—and aperient medicines may be taken. General hygienic conditions are most important.

In pernicious anemia the gastric secretion is almost entirely free of hydrochloric acid and ferments. The best result in this condition will be obtained by giving after food, pepsin and hydrochloric acid—e. g.:

℞

	Gm. or c.c.		
Liquoris arsenici hydrochlorici	2		♏iii
Glyceritus pepsinæ	4		ʒj
Acidi hydrochlorici dil.	1	or	♏xv
Tincturæ cardamomi compositus	4		ʒj
Aquæ chloroformi, ad	30		ʒj

T.d.s., p.c.

The pain in acute gastritis may be relieved by hot applications to the epigastrium; the application of a mustard leaf, or mustard poultice, or the ice-bag. Food should be withheld for twenty-four hours. The stomach should be emptied either by the induction of vomiting after drinking warm water, or by the giving of a simple emetic, or by washing out with a soft tube. Calomel, 2 gr., with bicarbonate of soda, 5 gr., should be given after the stomach is emptied. Nausea may be relieved by giving a mixture of:

℞

	Gm. or c.c.		
Bismuthi carbonatis			
Sodii bicarbonatis, āā	1		gr. xv
Acidi hydrocyanici dil.	2	or	♏iii
Aquæ menthæ piperitæ, ad	30		ʒj

Four tis horis.

In cases in which the pain is very severe, it may be necessary to give a hypodermic injection of morphin, 1/5 gr.

Journal of Tropical Medicine and Hygiene, London

June 1, XV, No. 11, pp. 161-176

29 Cell Inclusions in Blood of Blackwater Fever and Other Tropical Diseases. G. C. Low.
30 Severe Case of Uncinariasis Showing Entire Absence of Eosinophilia. L. J. Coppedge.
31 Cases of Fever Probably Due to Bacillus Asiaticus. A. Castellani.

Clinical Journal, London

June 19, XL, No. 11, pp. 161-176

32 Demonstration of Surgical Cases. A. H. Tubby.
33 Alcoholic Drinks. F. M. Sandwith.
34 Treatment of Traumatic Neurasthenia. H. C. Thomson.
35 Clinical Demonstration. A. J. Jex-Blake.

June 26, XL, No. 12, pp. 177-192

36 *Pruritus Ani. J. P. L. Mummery.
37 *Some Practical Points Relating to Causation and Treatment of Pruritus Vulvæ. J. H. Evans.
38 Pre-Victorian Liquor Laws and Temperance Movement. F. M. Sandwith.

July 3, XL, No. 13, pp. 193-208

39 Case of Sarcoma Causing Chronic Intussusception. D'A. Power.
40 Points of Practical Importance in Some Common Affections of the Nose and Throat. H. J. Davis.
41 Modern Liquor Laws and Alcoholic Habits. F. M. Sandwith.

July 10, XL, No. 14, pp. 209-224

42 Hyperthyroidism. W. S. Handley.
43 Medical Aspect of Alcoholism. F. M. Sandwith.

36. Pruritus Ani.—Mummery is a believer in the use of powders in preference to ointment for pruritus, because damp-

ness of the skin is one of the chief factors in producing the condition. A good powder is starch and boracic acid in equal parts. The powder should be put on thickly so as to keep the parts dry, and after exertion or anything which is likely to cause the dampness to reappear the powder should be reapplied. Bathing the parts with weak phenol solution is often extremely effectual; that is to say, phenol solution 1 in 60 or 1 in 40 dabbed on with a sponge or with cotton-wool. Another very useful method of treating the condition is by using a paint. There are several different paints which are good. One which Mummery has used and found very satisfactory is the following:

℞	Gm. or c.c.		
Picis carbonis	4	or	3j
Benzolis	16		3iv
Acetone	60		3ij

painted on with a brush, one or two coats, and allowed to dry. The idea in using a paint is to allow it just to form a slight protection over the skin. Ointments should not be used if one can avoid them, but in very severe cases they are useful to tide over a bad period. In some cases they are more effectual than anything else. An ointment which can generally be depended on to temporarily alleviate irritation is one of chloroform, which is made by rubbing as much chloroform as possible into one ounce of lanolin. Another very useful ointment is the following:

℞	Gm. or c.c.		
Bismuthi subnitratis	3		3ij
Cocainæ hydrochloratis	66	or	gr. x
Hydrargyri subchloridi	1		gr. xv
Petrolati	30		3j

37. **Causation and Treatment of Pruritus Vulvæ.**—The following prescriptions are given by Evans for the treatment of this condition:

℞	Gm. or c.c.		
Bismuth carbonate			
Zinc oxid	āā 66	or	gr. x
Lanolin	ad 30		3j

P.a.a.

Subgallate of bismuth p.a.a.

℞	Gm. or c.c.		
Ungt picis			
Ungt belladonnæ	āā 8	or	3ij
Tr. aconiti	2		3ss
Aquæ rosæ	ad 30		3j

P.a.a.

For application to the vaginal wall so as to allow of contact to every part of the mucous membrane, the following solutions or pastes are best applied per speculum or as a tampon:

(a) Glycerin and bismuth carbonate made up into a paste.

(b)	Argentæ nitratis	gr. x
	Aquam	ad j
(c)	Liq. carbonis detergens	3j
	Glycerini	3j
	Zinci oxidi	3ss
	Pulv. calaminæ (prep)	3ss
	Aq.	3j

Archives Générales de Médecine, Paris

June, XCI, No. 6, pp. 485-568

44 *The Respiration in Orthopedic Treatment of Spinal Disease. (La respiration en orthopédie vertébraie.) R. Mesnard.
45 Histology of Emphysema. Millian.
46 Foreign Bodies in the Air-Passages. (Les corps étrangers des voies nériennes.) A. Schwartz.

44. **Influencing the Spine by Breathing Exercises.**—Mesnard says that the tonic effect of breathing exercises is an important factor in treatment of a spinal affection, but that the direct mechanical effect is even more important. Adenoids or pleural or pulmonary lesions, by obstructing the functioning of the air passages, are liable to induce deformity of the chest and spine. On the other hand, deformity of the latter may interfere with the respiration. Few physicians, he remarks, realize the danger of loss of balance in the trunk as a remote effect of pleurisy in a child, and few appreciate the importance of systematic breathing exercises to restore normal balance after removal of adenoids. The breathing is generally defective with scoliosis, and asymmetrical, and breathing exercises adapted to correct the asymmetry are often surprisingly useful in aiding in the straightening of the spine. The breathing exercises also help to loosen up the vertebral articulations and restore the normal shape to the chest. The respiration should be of the costal type, and the patient should be trained to this preliminary to the wearing of an orthopedic corset.

Bulletin de l'Académie de Médecine, Paris

June 25, LXXVI, No. 26, pp. 481-552

47 Discussion of Hospital Construction. (Construction d'un nouvel hôpital à Lyon.) E. Mosny and others.
48 Multiple Deformities in a Young Woman with Congenital Cyanosis. (Maladie bleue.) E. Boinet.

Grèce Médicale, Syra, Greece

June 1-15, XIV, Nos. 11-12, pp. 21-24

49 Traumatic Appendicitis. P. N. Divaris.

Journal d'Urologie Médicale et Chirurgicale, Paris

April, I, No. 4

50 Antimeningococcus Serum in Treatment of Joint Complications in Gonorrhea. (Traitement des complications articulaires de la blenorragie par des injections de sérum antiméningococcique.) P. Héresco and M. Cealic.
51 Cancer in Exstrophy of the Bladder. (Les cancers développés sur la vessie exstrophiée.) P. Lecène and A. Hovelacque.
52 Plastic Operation on the Urethra. (De la reconstitution de l'urètre par urétrorraphie circulaire avec dérivation de l'urine.) G. Marion.

Presse Médicale, Paris

April 6, XX, No. 28, pp. 277-288

53 Prophylaxis of Tuberculosis. (Hygiène et prophylaxie antituberculeuse.) N. G.-Mangin.

Revue Mens. de Gynécologie d'Obstétrique et de Pédiatrie, Paris

May, VII, No. 5, pp. 305-352

54.-*Metrorrhagia in Virgins. P. Dalché.
55 Peritonitis Consecutive to Conservative Cesarean Section; Recovery. R. Riss.
56 Repeated Cesarean Section. (Césarienne itérative conservatrice.) R. Gilles.

54. **Excessive Uterine Hemorrhage in Girls and Unmarried Women.**—Dalché discusses the causes and treatment of virginal metrorrhagia with or without pain and with or without anatomic lesions in the genital apparatus. Nothing is more variable than the origin, the intensity and the course of excessive uterine hemorrhage in girls and unmarried women, and yet there are five principal types which require special measures. 1. When the hemorrhage is so profuse as to be immediately threatening, he has the patient lie flat, the head low and the pelvis slightly raised; very hot vaginal douches are given and an ice-bag is kept constantly on the hypogastric region. Ergot should then be injected and repeated, in large doses, with injections of caffein, camphorated oil and artificial serum or animal serum. If the hemorrhage persists, he tampons, using either gelatin, animal serum or pengawar fibers. 2. When the menstrual discharge is alarmingly profuse, the first measure is absolute repose; constipation must be cured, supplemented by hemostatic drugs, such as ergot, hemp, quinin sulphate and gelatin internally, 5 gm. of the latter morning and night in bouillon, chocolate or hot milk. Very hot or cold vaginal douches should also be given, with tamponing as a last resort. Cold sitz baths also often prove useful in arresting the hemorrhage and short cold douches to the soles of the feet. Repeatedly dipping the hands into very hot water may aid, repeating this during three or five minutes several times a day. Organotherapy may also be given a trial, and Dalché has sometimes succeeded with thyroid extract, mamma or hypophysis extracts or epinephrin. In some cases the best results were attained with ice-bags, in others with injections of animal serum, hot enemas and certain gymnastic exercises. 3. When the trouble is from the too rapid or intensive onset of puberty, the girls should lead a quiet, hygienic life, no dancing, horseback riding or sea bathing. Long full tepid baths may prove useful, and hemostatic medication, calcium chlorid and gelatin, possibly supplemented by tentative organotherapy. In these cases tonics like iron and quinin should be carefully avoided. 4. In case of a tuberculous taint, ovarian extract will often serve to regulate the menstrual functioning. Suspicion of syphilis suggests specific treatment. 5. In metrorrhagia from some general cause, repose, hygiene and the tampon are the main reliances as adjuvants to the treatment of the constitutional cause. When the metrorrhagia is accompanied with pain there is often abnormal congestion in the ovaries and ovarian treatment may restore conditions to normal. In chlorosis there may be excessively severe menstrual hemorrhages without much pain; they are probably the result of vasomotor disturbances and

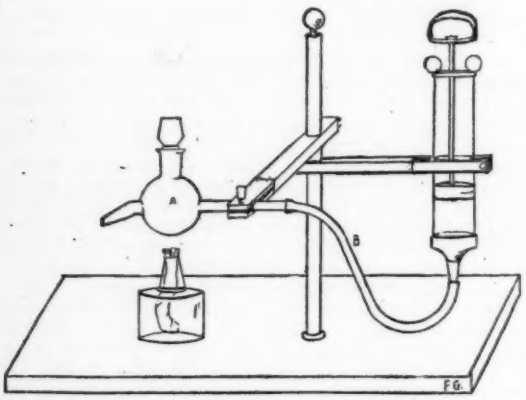
chlorotic changes in the composition of the blood. On the other hand, the chlorosis in many cases is merely a manifestation of some constitutional taint, such as tuberculosis or syphilis.

Semaine Médicale, Paris

July 10, XXXII, No. 28, pp. 325-336

57 *Iodin Vapors in Treatment of Cystitis. (Les vapeurs d'iode à l'état naissant dans le traitement des cystites.) G. Farnarier.

57. **Iodin Vapors in Treatment of Cystitis.**—Farnarier has been applying to the treatment of cystitis Louge's method of nascent iodin vapors, *enfumage*, and reports very encouraging results. He gives an illustration of the apparatus he has devised for the purpose: The patient reclines with the pelvis slightly raised and the capacity of the bladder is ascertained with tepid boiled water. Then a catheter is introduced connected with a spherical flask of a capacity of 30 c.c., containing from 0.05 to 0.1 gm. of iodoform. The flask has two tubular arms. The rear one is connected with a syringe mounted on the same standard. An alcohol lamp is lighted under the iodoform ampulla and violet iodin vapors are generated as the iodoform decomposes under the influence of the heat. The piston of the syringe is then pushed in to the mark corresponding to the capacity of the bladder and the nascent iodin vapors are thus forced into the bladder to this amount. The tube is then clamped for about five minutes to



Apparatus for generating iodin vapors for local application.

prevent the reflux of the vapors, after which the apparatus is set aside. He has applied the measure to twelve men and five women and in two cases the cure was prompt and complete and all the other patients—still under treatment—were materially improved. One of the patients was a man of 33 with an acute post-gonorrheal cystitis, and seven insufflations at intervals of four or five days cured him completely. In another case the cystitis had persisted for a year and a half absolutely rebellious to all methods of treatment, while rapid improvement followed the *enfumage*. The bladder at first was so irritable that morphin had to be given before the catheter could be introduced, but now the patient is very much improved and the capacity of her bladder has increased from 5 to 100 c.c. Cystoscopy was rendered possible by this improvement, and it revealed for the first time that the primary trouble was a tuberculous kidney, thus pointing the way to radical treatment.

Beiträge zur klinischen Chirurgie, Tübingen

June, LXXIX, No. 1, pp. 1-232

58 *Determination of Tubercle Bacilli in the Blood and Lesion with Surgical Tuberculosis. (Nachweis von Tuberkelbacillen im Blute und in den lokalen Entzündungsherden bei chirurgischer Tuberkulose.) S. Duchinoff.

59 *Means to Locate the Thrombus with Gangrene of the Leg. (Ortsbestimmung des Thrombus bei Gangrän der unteren Extremitäten nach der Methode von Moszkowicz.) M. Magula.

60 Rupture of Intestines from Contusion; Fifty-Two Cases. (Zur Frage der traumatischen subkutanen Darmruptur.) W. Tschistosserdoff.

61 *Causes of Postoperative Fatalities. (Ursachen der postoperativen Todesfälle.) G. Petren.

62 Lymphosarcomatosis. (Zur Diagnostik der aleukämischen Lymphomatosen.) F. A. Hesse.

63 *Dangers of Exploratory Incision of the Kidney. (Beitrag zu den Gefahren der Nephrotomie.) H. v. Haberer.

64 Mastix Dressing for Wounds. (Ueber Wundbehandlung mit dem Mastixverband.) Krebser.

65 *Operative Treatment of Exstrophy of the Bladder. (Zur Operation der Blasenektopie.) P. Janssen.

66 Osteoplastic Operation for Old Dislocation of the Cervical Vertebræ. (Zur Behandlung veralteter Wirbelluxationen mittelst Osteoplastik.) F. de Quervain.

67 *Circulation and Respiration During Mixed General Anesthesia. (Untersuchungen über Kreislauf und Atmung in der Skopolamin-Morphin-Aether-Narkose.) P. Müller.

68 Restoration of Urethra After Prostatectomy. (Herstellung des Harnweges nach der Prostatektomie samt Excision der Urethra prostatica.) Licini.

69 *Influence of Calcium Lactate on Hemorrhages. (Uber den Einfluss von milchsaurem Calcium auf Blutungen.) E. H. van Lier.

70 Bone Cysts. (Ueber Knochencysten.) Saxinger.

58. **Tubercle Bacilli in the Blood with Surgical Tuberculosis.**—Duchinoff examined the blood and the local inflammatory secretions, making ninety-eight examinations, in various forms of surgical tuberculosis. He found tubercle bacilli in the local lesion in every case and in the blood in 78 per cent. of the cases. He tabulates under various headings this entire material; it establishes beyond question, he reiterates, that a surgical tuberculosis cannot be regarded as a local affection.

59. **Localization of the Thrombus with Gangrene.**—Magula has been applying Moszkowicz' method to determine the point where a gangrenous limb could safely be amputated. When the tourniquet is removed from a healthy limb the blood rushes back down to the toes in a few seconds, but in the diseased limb the hyperemia spreads very slowly or only to a certain point, the limbs beneath persisting still blanched. The returning blood is arrested at the point where the lumen of the vessel is closed; if only partly closed the blood works its way slowly into the regions below. Magula has found this method extremely useful during the last eighteen months, and here summarizes his sixteen cases. In every instance the extent of the hyperemia corresponded with the localization of the thrombus, as ascertained by the following operation. The method is simple and harmless, and besides localizing the thrombus, throws light on the indications for the operation.

61. **Postoperative Fatalities.**—Petren analyzes the postoperative fatalities in 8,444 operative cases, a total of 304, that is, 3.66 mortality. Nearly 10 per cent. of the postoperative deaths occurred after cancer operations; 50 per cent. of the postoperative fatalities were the result of complications on the part of the lungs, and 25 per cent. of debility or constitutional disease and only 25 of infection. He emphasizes the necessity for improvements in the technic so as to ward off complications on the part of the lungs.

63. **Nephrotomy.**—Haberer urges all to publish without discrimination their mishaps after exploratory nephrotomy, and reports a case of the kind in which the diagnostic incision in the kidney entailed the loss of the organ; the exploratory nephrotomy was followed by severe hemorrhage which compelled secondary nephrectomy.

65. **Operative Treatment of Exstrophy of the Bladder.**—Janssen gives an illustrated description of what he regards as a very successful technic as applied in Witzel's service. The vertex of the bladder is fastened in the laparotomy incision and all abdominal straining is averted by section of the rectus muscles and the position in which the patient is placed. The urine is temporarily diverted by two tubes and the defect in the abdominal walls is closed with a plastic operation. The bladder thus formed cannot hold more than 30 or 50 c.c. of urine, but it may grow larger in functioning. In from four to six weeks, with this technic, the ectopic bladder is corrected, the normal shape of the abdomen restored, without danger of later ascending affection, and although the children have to void their urine every hour, it is under their control and all are satisfied with the outcome.

67. **Mixed General Anesthesia.**—Müller reports extensive research on the respiration and circulation during general anesthesia with various combinations of scopolamin, morphin

and ether. The combined action of the different drugs is by no means the sum of their separate actions, but he says that the changes noticed in the circulation and respiration with the three combined are not pronounced enough to discredit the method. He reviews sixty-one articles on blood-pressure measurement and 137 on the scopolamin-morphin method.

69. **Calcium Lactate in Hemorrhage.**—Van Lier tabulates the coagulating time in forty persons before and after administration of calcium lactate and also in healthy controls. His conclusions are negative as to the value of calcium lactate in prevention or treatment of hemorrhage.

Correspondenz-Blatt für Schweizer Aerzte, Basel

March 1, XLII, No. 7, pp. 225-272

71 *Surgical Treatment of Pulmonary Tuberculosis. F. Sauerbruch and T. Kocher.
72 Necessity for Caution in Prescribing Alcohol in Heart Disease. (Vorsicht in der Verordung von Alcoholicis bei Herzfehler.) C. Schneiter.

71. **Surgical Treatment of Pulmonary Tuberculosis.**—Sauerbruch reviews the history of operative measures in pulmonary tuberculosis and reports fifty operations on the wall of the thorax, done on thirty-two patients, including eight with only bronchiectasia. This material is tabulated for comparison under various headings. Two of the twenty-four tuberculous patients are now entirely well and two others are nearly well, while four have improved remarkably and five considerably. Moderate improvement is recorded in two others. The operation is recent in four other cases. One patient died the day after the operation and two others from aspiration pneumonia four and nine months afterward. These results show that operative measures offer a chance for marked improvement and possibly may cure extensive tuberculous pulmonary processes predominating on one side, which have proved rebellious to climatic and dietetic measures. The expectoration declines, the bacilli drop off or disappear entirely from the sputum, the temperature subsides while the general condition and the weight improve. Sauerbruch advocates two or three sittings for the thoracoplastic operation and working rapidly, with as little loss of blood as possible. In his last nineteen cases he operated exclusively under local anesthesia. The after-care is extremely important; every change of dressings, every position and the patient's getting up—every step is of the gravest importance. Kocher emphasizes the fact that surgical treatment of lung processes does not aim so much to attack the lesion directly as to modify conditions in regard to the blood and lymph circulation through the region and keep the lung in repose. Rollier has carried this principle into the treatment of bone and joint tuberculous lesions and has realized a complete cure with them, supplemented by direct sunlight, even when there were ten or twenty tuberculous foci. Kocher compares the different methods realizing differential atmospheric pressure for operations on the chest, saying that Meltzer's method of intratracheal insufflation has introduced an entirely new principle which seems to promise unusually well.

Deutsche medizinische Wochenschrift, Berlin

July 4, XXXVIII, No. 27, pp. 1265-1312

73 *Tardy Neuralgia After Amputation of the Thigh. B. Riedel.
74 Eosinophilia of the Urinary Passages During Asthma. (Eosinophilie der Harnwege im Verlaufe von Asthma bronchiale neost einen Beitrag zur Farbemethodik der Harnsedimente.) A. Edelmann and L. Karpel.
75 Acute Psychosis with Acute Pemphigus. (Foudroyant verlaufnde Psychose mit Pemphigus acutus.) F. Landsbergen.
76 *Carbohydrate Days in Diabetes. (Von der Wirkung der "Kohlenhydrattage" in der Diabetesbehandlung.) O. V. C. E. Petersen.
77 Cancer of the Pleura. (Zur klinischen und pathologisch-anatomischen Diagnose maligner Pleuratumoren.) L. Huismans.
78 The Coin Sign of Pleurisy with Effusion. (Ueber die diagnostische Bedeutung des "Signe du sou" bei pleuritischen Exsudaten.) B. M. Slatowerchownikow.
79 Muscular Rigidity Over Pulmonary Lesions. (Ueber die von Pottenger beschriebenen Phänomene des Muskelspasmus und der Muskelrigidität.) F. Raether.
80 Therapeutic Positive Ionization. (Ueber Anionentherapie.) G. Kaestner.
81 Paradoxic Serodiagnosis. (Bedeutung der paradoxen Sera bei der Wa. R.) E. Meirowsky.
82 Woman in Medicine. (Der weibliche Arzt.) H. Stelzner.

73. **Tardy Neuralgia After Amputation of the Femur.**—In the case reported, the patient suffered no pain from his amputated limb until after twenty-four years, when neuralgia developed and became intolerable. Riedel has observed recently a similar case in a physician, and Deutsch has published another case under the heading "Endarteritis with Intermittent Limping." In all these cases the development of arteriosclerosis, especially in the stump region, is probably responsible for the tardy neuralgia. The insufficient blood-supply to the nerves explains the pains. Riedel urges others to examine stumps when the patients have reached the arteriosclerosis age, and see if some of them do not complain of similar tardy pains. They may ascribe them to the "change in the weather," but in the cases he reports no influence from this could be detected. If the pain becomes unbearable he will propose to his patient resection of the old cicatrix and of the sciatic nerve.

76. **Carbohydrate Days in Diabetes.**—Petersen thinks that the benefit from the interposition of days of restriction to carbohydrates is merely that the actual nourishment is reduced. The benefit is from the comparative inanition.

Deutsche Zeitschrift für Chirurgie, Leipsic

June, CXVII, Nos. 1-2, pp. 1-206

83 *Section of Posterior Spinal Nerve-Roots in Treatment of Gastric Crises. (Die operative Behandlung gastrischer Krisen nach Foerster.) G. Lotheissen.
84 *Snapping Hip-Joint. (Ueber den heutigen Stand der Lehre von der schnellenden Hüfte.) A. Ebner.
85 *Perforated Gastric and Duodenal Ulcer. (Zur Klinik und Pathologie des perforierten Magen- und Duodenalgeschwürs.) A. Citronblatt.
86 Hip-Joint Disease in Children. (Ueber Osteoarthritis deformans coxae juvenilis.) R. Eden.
87 Technic for Counting Blood-Platelets. (Neues Verfahren der Blutplättchenzählung.) A. Fonio.
88 Primary Actinomycosis of the Stomach. (Kasuistischer Beitrag zur Frage der primaren Magenaktinomykose.) W. Pohl.

83. **Operative Treatment of Gastric Crises.**—Lotheissen reports three cases and summarizes the literature on this subject to date, his article filling sixty-two pages. American literature is only scantily represented in his review. As the vagus is evidently responsible for the crises in a certain proportion of cases, the Foerster technic should be applied only when there is a zone of decided hyperesthesia in the stomach region and the epigastric reflex is exaggerated. He advises not to wait too long before doing the resection; a tuberculous process of the lungs would have better chances of healing if the gastric crises, preventing proper nourishment, could be cured. His review includes thirty-nine cases in which the dorsal spinal roots were resected for gastric crises and twenty-nine in which the operation was done for neuralgia. The total mortality was 14.7 per cent. but as three of the patients were operated on twice, the operative mortality was in reality only 14 per cent. in seventy-one operations. This is remarkably low as the patients were all extremely debilitated from their long sufferings. The immediate outcome was favorable in nearly every case. The increased nourishment improved the general health and arrested the progress of the tabes in one of Lotheissen's cases. Others had advised against the operation in this case as the tabes had showed a rapidly progressive course, but the benefit from the rhizectomy was marked and even the ataxia seems less pronounced to date, eighteen months since the operation, as in another case on record, the subsidence of ataxia persisting to date, seven months after the operation. The results of the rhizectomy may be regarded as very favorable; over half of the patients were cured and a number of others so much improved that it is almost equivalent to a cure. Only one failure is on record, and this was the first patient operated on, and probably not enough roots had been resected. It is generally necessary to resect from the sixth dorsal root downward to include the first lumbar root; the technic is applicable also to abdominal tabetic crises, and inoperable uterine cancer. The various operations that have been proposed in place of Foerster's technic by Franke, Hanel, Exner and Schuller do not promise as well, and the low mortality and good results of the Foerster operation render a substitute for it unnecessary.

84. **Snapping Hip-Joint.**—Ebner's attention was called to this anomaly by a personal case, and he has studied its history to date; twenty-eight cases are compiled, of which 64.3

per cent. were of traumatic origin. The prognosis is invariably favorable provided proper treatment is applied in time, namely, myotomy of the anterior bundle of the gluteus maximus in connection with fixation of the slipping part; he describes the technic for this as done by Payr with complete success.

85. **Perforated Gastric and Duodenal Ulcer.**—Citronblatt reports from Moscow that in the last ten years at the Katharina Hospital 1 per cent. of the necropsies revealed a perforated ulcer as the cause of death, a total of fifty in the 5,320 necropsies. During this period operative treatment of a perforated ulcer was applied in only twelve cases. None of the patients felt the onset of the pain so intensely as to prostrate them; there was no collapse in any of his cases and the onset was only relatively acute, and the trouble did not seem to be of a threatening nature. There was no stiffening of the abdominal walls in six of the twelve cases, and the liver dulness disappeared in only three. In some cases the intense pain was referred to below the umbilicus or to the inguinal region. Vomiting occurred in six cases, and the clinical picture as a whole was vague. In none had the condition been correctly diagnosed before the patient was sent to the hospital; the interval after the first symptoms ranged from sixteen hours to six days. Only two of the patients recovered; the interval in both these cases was thirty-six hours.

Medizinische Klinik, Berlin

July 7, VIII, No. 27, pp. 1097-1138

89 Senile Cataract. (Der gegenwärtige Standpunkt in der Therapie des Altersstars.) A. Elschnig.
90 Advantages of Massage in Certain Skin Diseases. (Die Massage der Hautkrankheiten.) O. Rosenthal.
91 *Roentgenotherapy of Uterine Myoma. (Konservative Behandlung der Uterusmyome mittels Röntgenstrahlen.) E. Runge.
92 Wassermann Reaction and Treatment of Old Syphilis. (Wassermann und Therapie der Spätlues.) W. Krebs.
93 Balneology and Gynecology. (Ueber konservative und operative Behandlung der Frauenkrankheiten im Bade.) O. Daude.
94 Balneology and Diabetes. (Einwirkung von Thermalbedekuren auf den Diabetes mellitus.) E. Pfeiffer.
95 Biologic Status of the Thymus. (Die biologische Bedeutung der Thymusdrüse auf Grund neuerer Experimentalstudien.) A. E. Lampé.

91. **Conservative Treatment of Uterine Myoma With the Roentgen Rays.**—Runge states that this method has been applied in his service in ninety-three cases for uterine myomas, in twenty-six for climacteric hemorrhage, in six for dysmenorrhea, in seven for pruritus of the vulva, twice for kraurosis and twice for eczema of the vulva, and once for vulvar cancer. No injury of the skin was observed in the more than 1,000 exposures. The advantages of the method, he says, are its absolute harmlessness and the possibility of its application with complications which prevent an operation. The older the woman the more quickly the desired result is obtained. A favorable effect on the hemorrhages was realized in 83.5 per cent., and in 22.6 per cent. the myoma became demonstrably smaller. Suspicion of cancer of course excludes this method of treatment, and it is not advisable for women still in the child-bearing age. He describes the technic in detail; the rays are applied in turn at four different points for the ovaries and six for the uterus at each sitting, but the sitting is not completed in less than three days as only two points are exposed in one day. He uses a very hard tube and a 2 mm. thick aluminum filter. The total unfiltered dose is about 66.6 Holzknecht units, equivalent to 133.2 Kienböck units or 13.3 erythema doses. The intervals between the sittings have been three weeks but in future he intends to shorten them to two weeks. The menstrual period is not allowed to interfere with the sittings as a rule.

Monatsschrift für Geburtshülfe und Gynäkologie

June, XXXV, No. 6, pp. 671-790

96 *Treatment for Retention of Fetal Membranes. (Zur Behandlung der Eihautretention.) R. Roeder.
97 *Aortitis in Children with Inherited Syphilis. S. Rebaudi.
98 *Uterine Myoma and Child-Bearing. (Uterusmyom, Sterilität und Fertilität.) A. Troell. Commenced in No. 5.
99 Ultimate Results of Operative Treatment of Cancer of the Uterine Cervix. (Wert der Radikaloperation der Kollumkrebse nach den letzen Wertheim'schen Angaben im Lichte der Kritik.) A. Markowsky.
100 Technic for Examination of Genital Secretions. (Ueber den Wert des Ausstrichpräparates für die Untersuchung der Genitalsekrete.) M. Traugott and O. M. Küster.

96. **Retention of Secundines.**—Roeder found records of retention of secundines in 1,476 cases among the 13,986 deliveries at the St. Petersburg Alexandra maternity in the fifteen years ending with 1910. The proportion of retention was thus 10.55 per cent., and over half of the women with retention were multiparæ. In 169 of the total 1,476 cases the membranes had to be artificially removed; in the others they were spontaneously expelled from the uterus sooner or later. There was fever in 21.4 per cent. of the 1,307 expectant and in 42 per cent. of the active cases, and the mortality was 0.23 in the former and 3 per cent. in the latter group. Sifting the cases further shows that with conservative treatment only 1.1 per cent. of the patients had severe complications while this occurred in 26.5 per cent. of the active cases; in 20 per cent. of the cases in which the uterus was artificially evacuated immediately after delivery, and in 78 per cent. when this was not done until after the onset of fever. The lesson taught by his figures is that any intra-uterine measures for retention of secundines are useless and dangerous. The only certain indication for them is a serious hemorrhage, and this only exceptionally occurs in consequence of retention of fetal membranes. The main point is in prophylaxis; not to be unduly hasty in trying to promote the separation of the placenta, that is, not to apply pressure or massage the uterus immediately after delivery, and, above all, to act aseptically.

97. **Aortitis with Inherited Syphilis.**—Rebaudi reviews what has been written to date on the subject and reports findings in the cadavers of seventeen new-born children with spirochetes in the principal organs. In thirteen of the cadavers the aorta was abnormal; the changes in it were similar to those of the aortitis of acquired syphilis in adults.

98. **Uterine Myoma and Child-Bearing.**—Troell's conclusions from his extensive experience and research are that the uterus is more inclined to develop myomas in the unmarried and the sterile than in child-bearing women. The normal tendency to proliferation possessed by the uterus finds its normal expression in a pregnancy; when there is no pregnancy, this tendency manifests itself in a pathologic way, by myoma formation. This view is sustained by various data and the fact that the myoma develops as a rule when the uterus has given up the hope of a pregnancy, namely, in the forties and after fifty. The old idea that a myoma prevents conception, he thinks, is no longer tenable. In one of his cases a woman married at 41 had had two abortions in the first year and a large myoma was found in the rear wall of the uterus, but it was left undisturbed. At 43 she was spontaneously delivered of a child at term.

Münchener medizinische Wochenschrift

July 2, LIX, No. 27, pp. 1473-1528

101 Rhythmic Contraction of Living Heart-Muscle Outside of the Organism. (Rhythmische Kontraktionen der isolierten Herzmuskelzelle ausserhalb des Organismus.) M. T. Burrows (New York).
102 The Agglutinins and Transplanted Arteries. (Bedeutung der Isoagglutinine für die Schicksale homoplastisch transplantierter Arterien.) R. Ingebrigtsen.
103 Influence of the Vagus on the Large Intestine. (Einfluss des Nervus vagus auf den Dickdarm.) G. Boehm.
104 *Banti's Disease. (Zur Pathologie der Bantischen Milzkrankheit.) F. Umber.
105 Salvarsan in Splenic Anemia. (Fall von "Anaemia splenica" der Erwachsenen mit Salvarsan behandelt.) F. Perussia. (Spleno-anämische Syndrome und Salvarsanbehandlung.) C. Vallardi.
106 Serodiagnosis of Echinococcus Disease. B. Hahn.
107 Apparatus for Chronologic Recording of the Circulation. (Eine klinische Methode zur Schätzung der Kreislaufszeit.) A. Bornstein.
108 *Ambulatory Extension in Treatment of Fractures. (Zur ambulanten Behandlung von Knochenbrüchen mittels Distraktionsklammern.) P. T. L. Hackenbruch.
109 *Operations on Tendons and Nerves for Spastic Paralysis. (Sehnenoperationen und Nervenoperationen bei spastischen Lähmungen.) O. Vulpius.
110 Benedict's Test for Sugar. (Zur Benedictschen Zuckerprobe.) V. C. Myers.
111 Lipomatosis. (Zur Kasustik und Aetiologie der multiplen symmetrische Lipomatosis.) W. Schemensky.
112 Treatment of Habitual Defective Attitude. (Ueber die Behandlung von Haltungsanomalien.) N. Oettli.

104. **Banti's Disease.**—Umber has found that the liver is seriously injured secondarily in this syndrome which is char-

acterized by primary changes in the spleen causing toxic anemia and injury of the liver. The patients are generally young and the disease is inevitably fatal unless the spleen is removed, but this cures at one stroke if done in time. He reports two cases, one patient a boy of 10, the other a young bank clerk, both apparently cured by splenectomy. The cirrhosis of the liver subsides in the Banti syndrome after splenectomy if not too far advanced, while this does not occur with ordinary cirrhosis of the liver. A special feature of the Banti syndrome is, further, that the splenomegaly is not accompanied by enlargement of lymph glands or nodes. Umber gives the metabolic findings in his cases and compares them with a previous case published in 1904.

108. **Ambulatory Extension in Treatment of Fractures.**—The experiences with the extension appliance devised by Hackenbruch are proving extremely promising. The fragments are held in place by a plaster-of-Paris bandage in which is set the extension brace, *Distraktionsklammer*, just as the plaster hardens. The plaster is cut out around the limb, leaving a narrow space free, encircling the limb, and in this space fits the nut in the center of the long narrow brace. By turning the nut, the two ends are screwed apart, widening the gap in the plaster. The brace is held firm by a broad foot-piece on each end, mounted with a ball-bearing joint which permits traction to be exerted from any direction. The principle is the same as in von Eiselsberg's brace (1893), but it avoids the drawbacks of the latter. He gives radiographs of some fractures before, during and after application of the brace. It permits effectual extension and prevents shortening of the limb while the patient can be up and about with the use of a crutch or other support. He describes the exact technic in detail, with favorable comment on "factis" as an elastic filling for the pads to relieve the pressure on prominent portions beneath the cast. (Factis is ground rubber; its use in pads was mentioned in these columns March 16, 1912, p. 827.)

109. **Tendon Versus Nerve Operations in Spastic Paralysis.**—Vulpius compares the technic and outcome of tendon transplantation operations and section of the posterior spinal nerve roots, endeavoring to outline the indications presented by individual cases of spastic paralysis. He says that in many cases as favorable results have been obtained with the former as with the latter operation. If the after-care of the cases is supervised with as much solicitude as Foerster has applied in his rhizectomy cases, Vulpius is convinced that the ultimate results of tendon transplantation would be still better. He agrees with Foerster that in only the severest cases of spastic paralysis is rhizectomy indicated. The intelligence of the children frequently shows a decided change for the better after either operation as the children have so much more attention paid to them instead of the neglect which is generally their lot otherwise. The exact technic for the various tendons is reviewed and orthopedists are encouraged to undertake the treatment of all forms of spastic paralysis, with greater confidence.

Wiener klinische Wochenschrift, Vienna

April 11, XXV, No. 15, pp. 551-582

113 Toxicity of the Urine in Various Diseases. I. (Zur Kenntnis der Harntoxizität des Menschen bei verschiedenen Krankheitenständen.) H. Pfeiffer and O. Albrecht.
114 *Early Diagnosis of Gastric Cancer. (Weitere Beobachtungen über meine Methode der Erkennung des Charakters der Pylorusstenose bezw. des Ueberganges des runden Magengeschwürs in Krebs.) A. Gluzinski.
115 Lymphatic Pseudo-Appendicitis. V. Lieblein.
116 Prostatectomy. Favento.
117 Sarcoma of the Prostate. H. G. Pleschner.
118 Ulcerations in the Intestines with Pernicious Anemia. (Darmgeschwüre bei perniziöser Anämie.) O. Schweeger.

114. **Early Diagnosis of Gastric Cancer.**—Gluzinski's method of differentiating cancer by the absence of hydrochloric acid in the stomach content was recently described with favorable comment in these columns August 3, abstract 112, p. 409. He here tabulates the details of seventeen cases in which by this means he was able to determine the existence of malignant disease although there was no palpable tumor. In nine of the cases this diagnosis was confirmed at the following operation and in the others by the course of the disease.

Zentralblatt für Chirurgie, Leipsic

July 6, XXXIX, No. 27, pp. 905-944

119 *Improved Technic for Saline Infusion. (Injektion mit Salzlösung.) D. Schoute.
120 Experimental Exophthalmic Goiter. (Zur experimentellen Erzeugung des Morbus Basedowii.) M. Baruch.
121 Recurring Thyroiditis. (Fall von rezidivierender Strumitis mit Bildung eines Kropfsteines mit Durchbruch in den Sinus pyriformis und oesophagus.) R. Vogel.

119. **Saline Infusion.**—The various inconveniences of saline infusion by the usual routes, namely, injection into the subcutaneous tissue, rectum, abdominal cavity or into a vein, impelled Schoute to seek a better technic for routine use in general practice. By the technics in vogue absorption is slow and the procedure painful, but these drawbacks are avoided by injecting the solution directly into the prevesical space, the triangular interval occupied by more or less fatty tissue, known as the pubovesical space of Retzius. By pushing the needle along the rear wall of the symphysis it enters the space in question without fail, and the fluid runs out of the needle into this space so freely that a liter can be thus infused in less than ten minutes. The tissue here is so loose that the fluid finds its way in without effort and thus the procedure is free from pain. This need not cause surprise as we know that this prevesical space serves only as a reserve space for the bladder to stretch into as it fills. The patients feel sometimes a little pressure on the bladder when the saline solution fills the space of Retzius, but the sensation is never enough to complain of. An area of dulness shows where the salt solution lies; a few hours later not a trace of it can be detected by auscultation or palpation. He has applied this method in a large number of cases and has never noted any by-effects or complications. Even if the bladder or peritoneum should happen to be pierced by the needle this would do no harm. He found the procedure extremely useful and harmless in a case of compound fracture of the pelvis and severe peritonitis in a child who had been run over by a wagon. Schoute injected the salt solution in this way for several days, until the constant vomiting could be controlled. The special advantages of this technic are thus the lack of pain or discomfort, the rapidity of the infusion and absorption, the simplicity of the procedure, and the fact that the fluid never seeps out again.

Zentralblatt für Gynäkologie, Leipsic

July 6, XXXVI, No. 27, pp. 881-912

122 Silver Acetate in Prophylaxis of Ophthalmia Neonatorum. (Zur Verhütung der Augeneiterung der Neugeborenen.) P. Zweifel.
123 Technic for Vesicoventral Fixation of the Uterus. G. Walcher.
124 *Vacuum Cap for Artificial Delivery. (Ueber geburtshilfliche Extraktionen mit meinem Vakuumhelm.) Kuntsch.

124. **Obstetric Vacuum Cap.**—Kuntsch has devised a soft, suction apparatus which can be introduced folded into the vagina and applied to the presenting head of the fetus. It fits to the head and it is then pumped empty of air. The vacuum thus induced permits a firm grip of the fetal head sufficient for traction of 1 kilogram per square centimeter. This proved amply sufficient for seizing the fetus in a recent obstetric case and enabling it to be delivered by the suction traction from the vacuum helmet. In this case there was left breech presentation. In eight seconds after application of the suction apparatus the breech was safely delivered. The child weighed 7.25 pounds and its left buttock looked bluish red for a few hours but otherwise there were no signs of injury. The mother was a primipara of 32, with slightly contracted pelvis. In a second case the vacuum helmet was applied to the head and the child was delivered in ten seconds without any straining on the part of the mother and no signs of injury of the child. There was slight laceration of the perineum in this case; the patient was a woman of 21. Kuntsch deprecates any attempt to advise general adoption of this method, but he urges discussion of the principle and its possible application in the clinic if it proves as harmless as it now seems to be.

Zentralblatt für innere Medizin, Leipsic

July 6, XXXIII, No. 27, pp. 669-692

125 Reform in Advertising of Medicinal Articles. (Erklärung des Verbandes der chemisch-pharmaz. Grossindustrie Antwort.) F. Penzoldt and others.

Gazzetta degli Ospedali e delle Cliniche, Milan

July 2, XXXIII, No. 79, pp. 817-824

126 *Artificial Pneumothorax Most Effectual Means to Arrest Tendency to Hemoptysis in Tuberculosis. (Il pneumotorace artificiale come mezzo di arresto delle emottisi tubercolari.) G. Finzi.

126. **Artificial Pneumothorax as Means to Arrest Hemoptysis.**—Finzi reports three cases in men between 20 and 40 and cites a few others to confirm the effectual action of the artificial pneumothorax, when conditions permit its application, in the cure of a tendency to hemoptysis in a tuberculous lung.

Revista de Medicina y Cirugia, Havana

July 10, XVI, No. 13, pp. 359-390

127 Caisson Disease. (Caisson disease o paralisis de los buzos.) A. G. Dominguez.

128 "Infection Houses." (Cesas infecciosas.) L. M. Cowley.

Hospitalstidende, Copenhagen

July 3, LV, No. 27, pp. 761-784

129 *Sulphur Reaction in the Urine in Diagnosis of Cancer. (Undersøgelser over Værdien af Saxl's Svovlreaktion ved Carcinom i Fordøjelsesorganerne.) O. V. C. E. Petersen.

129. **Sulphur Reaction in the Urine as Sign of Cancer.**—THE JOURNAL, Feb. 17, 1912, p. 522, mentioned the sulphur reaction in the urine to which Saxl and Salomon called attention as practically specific for cancer. The technic was described in these columns Oct. 28, 1911, p. 1496. Petersen here reports his experiences with it, confirming the reliability of this method for diagnosis of cancer. He describes his technic which differs slightly from that of the originators of the method. In a group of twenty-seven persons supposedly free from cancer the findings were constantly negative in all but five; in three of these three out of five tests gave negative findings and the others only a slight indication of positive findings. In one patient with advanced cirrhosis of the liver, the findings were markedly positive on seven repetitions of the test during six weeks, as also in a fifth, although nothing was found at necropsy in either case to suggest cancer. In twenty patients with suspected cancer the reaction was positive in thirteen, variable in two, and negative in five. In nineteen cases of certain cancer the reaction was negative in only two instances, and both of these patients had intense jaundice and cachexia.

Norsk Magazin for Lægevidenskaben, Christiania

July, LXXIII, No. 7, pp. 961-1108 and Supplement

130 Conception and Classification of Mental Diseases. (Om sygdomsbegrepet i psykiatrien og sindssygdomsdiagnoserne. Med et forslag til en fælles skandinavisk diagnoseliste.) H. Evensen.

131 Case of Sclerosis of the Brain with Myxoliposarcomas in the Kidneys and Adenoma Sebaceum. (Et tilfælde av tuberøs hjernesklerose med samtidig forekomst av nyresvulster og av en hudsygdom.) F. Harbitz.

132 Operative Reduction and Nail Fixation for Fracture of the Tubercle of the Tibia. (Fractura tuberositatis tibiae.) P. Bull.

133 Case of Addison's Disease Without Pigmentation. K. Andersen.

134 Case of Syphilitic Periostitis with Remittent Fever. G. Gjestland.

135 Case of Paralysis Agitans with Enlargement of Parathyroids. G. Gjestland.

136 *Duodenal Ulcer. (Statistiske data om peptiske ulcerationer, samt nogen bemerkninger om ulcus duodeni.) N. Paus.

137 *Thrombosis and Embolism After Operations for Appendicitis. P. Bull.

136. **Duodenal Ulcers.**—Paus states that in 3,000 necropsies, 1898-1911, duodenal ulcer was found sixteen times, gastric ulcer seventy-seven, and both coexisted in five cases; an ulcer in the esophagus was found but once. The frequency was thus 2.77 per cent. for the gastric and 0.73 for the duodenal in the Christiania material. The percentage of ulcer patients who succumbed to the affection was much larger in the duodenal than the gastric cases, perforation being more common with the former. He cites the details of seven typical cases, two of sudden fatal hemorrhage in the midst of comparative health. The first patient, a man of 34, had had dyspeptic symptoms for ten years, especially pain between meals. After slight hematemesis on a few occasions, he died from sudden severe hemorrhage; the stomach was found much dilated, but the ulceration was in the duodenum. The second patient was a man of 71 who for a few years had complained of cardialgic pains at times and had hematemesis on one occasion before the fulminating hemorrhage from arrosion of a vessel by his duodenal ulcer. The other Damocles sword hanging over duodenal ulcer subjects is perforation; in a case of this kind a man of 50 had had occasional abdominal pains for ten years, increasing in frequency and severity, until he suddenly collapsed, and necropsy revealed perforation of a duodenal ulcer. In all the cases summarized there had been dyspeptic symptoms for one to ten years; one patient had syphilitic changes in the arteries, especially in the aorta; one had multiple duodenal ulcers. One of the fatal cases was in a boy and one in a girl between 10 and 20, two in men between 20 and 30, four in men between 30 and 40 and one in a woman of this age. Signs of a duodenal ulcer were found in nearly three times as many men as women, while gastric ulcer was found in nearly as many women as men.

137. **Thrombosis and Embolism After Appendicitis Operations.**—Bull's article fills a supplement of ninety-two pages and gives a detailed analysis of the twenty-two cases of thrombosis and embolism which have occurred among his 188 laparotomies for appendicitis. In seventy-three cases the appendicitis was chronic. Palpable thrombosis did not develop until the fifth, tenth, sixteenth and thirty-fourth days, but pulmonary embolism developed the second, fourth, up to the seventh day in nine cases and in the second or third week in six. Nine of the fifteen patients with pulmonary embolism had more than one attack, thirteen attacks occurring in the first week among the nine patients and twenty-two in the second or third week among the six others. The longest interval between two attacks of embolism was twenty-one days and the shortest a few hours. The percentage of embolism cases among the eighty-eight women patients was 15 per cent. and among the 100 men only 9 per cent. Among the facts brought out by his analysis is that thrombosis and embolism do not occur after appendicectomies on children; the conclusion seems inevitable that this should turn the scale in favor of operative treatment of appendicitis in the young. They will not require an appendicectomy at the dangerous age if their appendix has already been removed. Another fact is that thrombosis does not develop in appendicitis given exclusively internal treatment; the predisposition and infection are on hand, but the supplementary factors provided by the operation are what bring on the thrombosis. Still another point brought out is that the thrombosis seems to follow the clean laparotomies just as often as the infected; also that the thrombosis may develop remote from the field of operation; the left femoral vein is affected more frequently than the right. In the two fatal embolism cases there were no signs of palpable thrombosis, but necropsy revealed the thrombosis in the pelvic veins. He emphasizes the mechanical factors in the etiology of thrombosis, and the special composition of the blood, citing O. Hanssen's experience that thrombosis never followed in any of his twenty-six patients treated by infusion of defibrinated blood for anemia, a total of sixty-one infusions. The occurrence of embolism the second, third and fourth days shows that early rising after a laparotomy will not always ward it off. One of the patients who got up the sixth day had slight embolism two days later. It is remarkable, Bull says, that all the progress realized in aseptic surgery has not reduced the proportion of cases of post-operative thrombosis and embolism. In treatment he advocates morphin as the urgent indication in an acute attack of pulmonary embolism; this helps to ensure the needed repose. Stimulants are not necessary, as death is not due to the heart but to the lungs, and the heart may continue to contract for an hour after cessation of respiration (Wolf). Gerhardt used to teach that 0.02 gm. morphin could be given in the acute attack without hesitation, even if the pulse is bad and cyanosis pronounced. Bull has followed this advice in the last few years and has had no cause to regret it. If the pulse keeps bad after the first alarming symptoms have subsided, stimulants then are in order but not saline infusion, as this imposes extra work on the already hampered right heart. The necropsy findings of multiple thrombi in one case showed that there could have been no chance recovery even if the plug in the pulmonary artery could have been removed at once.